

Exhibit Y

July 9, 2014

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I. PROFESSIONAL QUALIFICATIONS AND EXPERTISE

1. I am Professor of Accounting, KPMG Faculty Fellow, and Director of the Accounting Doctoral Program at the Stern School of Business, New York University (“Stern”). I received my B.A. in economics and philosophy from Dartmouth College in 1981 and my Ph.D. in business, concentrating on accounting, from Stanford Graduate School of Business in 1988. Prior to Stern, I taught at the Yale School of Organization and Management for three years. I periodically provide expert witness and consulting services to firms about accounting and valuation issues. The majority of these engagements involve the financial reporting by financial institutions and trading firms for their financial instruments and transactions. A number have involved mortgage banking and mortgage-backed securities.

2. My research and teaching examine financial accounting and financial analysis based on financial report information, with the primary focus being financial reporting by financial institutions for their financial instruments and transactions, including trading positions. I have individually authored or co-authored numerous articles in both academic- and practitioner-oriented journals, including *Accounting and Business Research*, *The Accounting Review*, *European Accounting Review*, *Foundations and Trends in Accounting*, *Journal of Accounting and Economics*, *Journal of Accounting Research*, *Review of Accounting Studies*, *Journal of Accounting*, *Auditing and Finance*, *Accounting Horizons*, and *Financial Analysts Journal*.

3. I have taught a wide range of financial and managerial accounting and financial analysis courses over my career. In 1999, I developed and have since taught an advanced industry-level financial analysis course in Stern’s MBA program concerned with the analysis of financial report information provided by financial institutions about their financial instruments and transactions. The absence of an existing treatment of the topic matter for this course led me

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to write *Financial Instruments and Institutions: Accounting and Disclosure Rules*, John Wiley & Sons, 2002, the second edition of which was published in 2007. In 2010, I developed and have since taught a course on accounting for financial instruments in Stern's MS in Accounting program. In teaching these courses, each year I read a large number of the financial institutions' financial reports, and I write many problems and cases based on the information provided in those reports.

4. Of particular relevance to this litigation, in 1999, I wrote a case study on the losses experienced by a subprime mortgage bank, Aames Financial, on subprime mortgage-backed securities and other subprime mortgage-related positions as a consequence of the market illiquidity that arose during the Russian Debt/Hedge Fund crisis in the second half of 1998. I included this case in the first edition of my book and discussed its broader relevance in some detail in the text of the second edition. The adverse experience of subprime mortgage-related positions in this pure liquidity crisis, during which the macroeconomy boomed and house prices rose, illustrates that the performance of these positions depend heavily on market liquidity. Compared to that crisis, the recent financial crisis that factors into this litigation exhibited more severe and pervasive market illiquidity combined with a near depression and approximately 30 percent national house price depreciation according to the S&P/Case-Shiller National House Price Index, significant aftereffects of which continue to this day.

5. I have been actively involved in the development of financial reporting standards over the past 15 years in various ways. In 2003, I concluded a four-year term on the Financial Accounting Standards Advisory Council, the advisory body to the Financial Accounting Standards Board ("FASB"), the primary accounting standards setter in the U.S. I am currently a member of the FASB's Liabilities and Equity Resource Group and its Financial Institutions

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Advisory Group. I have been the chair of the American Accounting Association's ("AAA") Financial Accounting Standards Committee, which comments on financial reporting proposals by the FASB, the Securities and Exchange Commission ("SEC"), and international accounting standards setters. I have chaired the AAA/FASB Financial Reporting Issues Conference Committee, which conducts an annual conference that brings accounting standards-setters, auditors, users of financial reports, and academics together to discuss current issues in financial reporting.

6. Based on my expert witness, consulting, research, teaching, and financial reporting activities over my 26-year career as an accounting academic, I have developed a deep understanding of financial reporting requirements and practices for financial institutions' financial instruments and transactions. I have applied this knowledge and experience in this report.

7. My *curriculum vitae*, which includes a list of my prior four years of testimony and expert reports, is included in Appendix A to this report.

8. I am being compensated in this matter at my current normal rate of \$900 per hour. My compensation is not dependent on my conclusions or on the outcome of this litigation.

II. CASE BACKGROUND

9. Plaintiff, the Federal Housing Finance Agency ("FHFA"), is conservator for the Federal National Mortgage Association ("Fannie Mae") and the Federal Home Loan Mortgage Corporation ("Freddie Mac"). I refer to Fannie Mae and Freddie Mac collectively as the government-sponsored entities ("GSEs"). In its June 28, 2012 amended complaint¹, Plaintiff

¹ See Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012) (the "Amended Complaint").

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alleges that Nomura² induced the GSEs to purchase seven non-agency mortgage-related securities (the “At-Issue Certificates”) issued in seven securitizations of non-agency mortgage loans (the “At-Issue Securitizations”) by making material misstatements and omitting material facts in the Offering Documents for the At-Issue Certificates. As shown in Exhibit 1, Freddie Mac purchased six of these securities and Fannie Mae purchased one. These alleged misstatements and omissions pertain to certain aspects of the mortgage originators’ underwriting and other practices used in originating the mortgage loans that underlie the At-Issue Certificates. In particular, the Plaintiff alleges, among other things, that: a) “The Statistical Data Provided in the Prospectus Supplements Concerning Owner Occupancy and LTV Ratios Was Materially False or Misleading,” and b) “The Originators of the Underlying Mortgage Loans Systematically Disregarded Their Underwriting Guidelines.”³

10. The Plaintiff alleges that the GSEs have suffered losses as a result of Defendants’ misstatements and omissions in the Offering Documents for the At-Issue Certificates.

III. ASSIGNMENT

11. I have been asked by Sullivan & Cromwell LLP, on behalf of Nomura, to describe Freddie Mac’s and Fannie Mae’s accounting for the At-Issue Certificates and to identify and describe the conclusions that can reasonably be drawn from the amount, timing, and financial statement classification of the accounting losses that the GSEs recorded on these securities.⁴ In

² The Nomura defendants include: Nomura Holding America Inc., Nomura Asset Acceptance Corporation, Nomura Home Equity Loan, Inc., Nomura Credit & Capital, Inc., Nomura Securities International, Inc., David Findlay, John McCarthy, John P. Graham, Nathan Gorin, and N. Dante LaRocca.

³ Amended Complaint at ¶¶ 100 – 122.

⁴ I have also been retained on behalf of the following banks (retaining law firm in parentheses): Bank of America (Williams & Connolly), Barclays (Sullivan & Cromwell), Credit Suisse (Cravath, Swaine & Moore), First Horizon (Sullivan & Cromwell), Goldman Sachs (Sullivan & Cromwell), HSBC (Boies, Schiller & Flexner, and Mayer Brown), Merrill Lynch (Williams & Connolly), Morgan Stanley (Davis Polk & Wardwell), RBS (Simpson Thacher & Bartlett), and SocGen (Skadden, Arps, Slate, Meagher & Flom). With the exception of RBS (who has settled claims in *Federal Housing Finance Agency v. Ally Financial Inc., et al.*, No. 11 Civ. 7010 (DLC), but remains a

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particular, I have been asked to determine whether the manner in which the GSEs accounted for the losses of fair value indicates that the GSEs determined that some portion of these losses was attributable to changes in financial market or other relevant economic conditions that affected non-agency mortgage-related securities generally, rather than to factors specific to the origination or sale of the mortgages underlying the At-Issue Certificates.

12. I have also been asked to comment on whether Freddie Mac's and Fannie Mae's accounting treatments for the At-Issue Certificates reflect the GSEs' determination that they made binding commitments to purchase the securities and, if so, the dates on which those commitments were made.

13. I state all the opinions in this report with a reasonable degree of certainty, and expect to state these opinions at deposition and trial. I have prepared this report based on the documents, discovery materials, and other evidence available to me to date, and have examined all such materials of which I am aware that I deemed relevant. A list of the materials I have relied upon is included in Appendix B. I have been aided in the preparation of this report by others working under my direction, particularly with regard to organizing and validating the consistency of the accounting data provided in the GSEs' internal impairment analysis work papers (the "GSEs' work papers") and in Plaintiff's responses to Defendants' interrogatory data requests. I reserve the right to revise my opinions and supplement this report as additional information becomes available. I expressly reserve this right to the extent that FHFA produces documents that it has withheld to date. Finally, I expressly reserve this right to the extent that third parties produce additional documents.

defendant in the *Nomura* action), HSBC, and Goldman Sachs, these banks have settled since the date of my initial report.

IV. SUMMARY OF OPINIONS AND ORGANIZATION OF REPORT

A. Summary of Opinions

14. Since 2008, Freddie Mac and Fannie Mae have recorded losses of fair value⁵ on the At-Issue Certificates that they held at each fiscal quarter end. For the seven At-Issue Certificates, all of which they classified as Available for Sale (“AFS”), the GSEs estimated and reported these losses following accounting and disclosure rules that require reporting firms to partition losses of fair value on AFS securities into components that reflect the firms’ views about the causes and thus the expected recoverability of the losses.

15. Specifically, prior to April 2009, these rules required Freddie Mac and Fannie Mae to distinguish between (1) temporary losses of fair value that predominantly resulted from changes in financial market conditions, such as illiquidity, that transitorily increased market discount rates for all non-agency mortgage-related securities,⁶ and (2) other than temporary (“OTT”) losses of fair value that resulted from probable decreases in cash flows.⁷

⁵ I discuss the definition and measurement of “fair value” under GAAP in Section V.B.

⁶ As I discuss in Section V.C of this report, prior to April 2009, temporary losses may also reflect: (1) decreases in cash flows that do not meet the probable threshold for other than temporary impairment or (2) security-specific increases in discount rates unaccompanied by any trigger for an other than temporary impairment write-down (i.e., there is no probable decrease in cash flows, no decision by Freddie Mac and Fannie Mae to sell the AFS At-Issue Certificates prior to recovery of fair value, and the GSEs probably will not sell these securities prior to full recovery of fair value). In my opinion, temporary losses on the AFS At-Issue Certificates attributable to items (1) and (2) are small or otherwise insignificant in this litigation and, to the extent such losses existed, are driven by the severely adverse changes in financial market and economic conditions during the financial crisis. Item (1) is insignificant in this litigation because it is time limited to pre-April 2009; as discussed below, all decreases in expected cash flows yield other than temporary impairments beginning in April 2009. Moreover, even pre-April 2009, non-probable decreases in cash flows were driven in large part by severely adverse changes in economic conditions during the financial crisis, for the same reasons as other than temporary credit losses post-April 2009 discussed in footnote 9 below. Item (2) is small because empirical research in finance shows that changes in the credit spreads on debt instruments are driven by market-wide demand and supply conditions, not by security-specific factors, as discussed in footnote 9 below. In addition, the GSEs’ determination that no trigger for other than temporary impairment existed indicates their determination that they probably will receive the promised cash flows and thus will experience no loss of income cumulatively over the life of the securities.

⁷ I use the acronym OTT to denote both “other than temporary” (impairments) and “other than temporarily” (impaired securities).

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16. In April 2009, the applicable accounting rules were amended to require that Freddie Mac and Fannie Mae further partition OTT losses into credit losses and non-credit losses in specified circumstances.⁸ As with temporary losses, OTT non-credit losses predominantly reflect increases in market discount rates attributable to changes in financial market conditions that adversely affected the fair values of all non-agency mortgage-related securities during the financial crisis, not security-specific factors.⁹

17. OTT credit losses reflect decreases in expected cash flows attributable to adverse changes after purchase both in security-specific factors and in non-security specific relevant economic factors. Security-specific factors include the characteristics of the borrowers and loans underlying the securities under consideration (e.g., financial distress of these borrowers as reflected in reduced FICO scores and decreases in the values of the mortgaged homes as reflected in increased loan-to-value ratios)¹⁰ and the performance of these loans (e.g., current or

⁸ As discussed in Section VI.A, this new requirement to partition OTT losses applied only if Freddie Mac and Fannie Mae intended to hold and more likely than not could hold the securities through recovery of non-credit losses. The GSEs state in their financial reports that they generally had this intent and ability.

⁹ In principle, temporary losses and OTT non-credit losses might result in part from increases in discount rates attributable to security-specific factors rather than financial market or economic conditions. Empirical research in finance, however, shows that changes in the credit spreads on corporate bonds and other debt instruments are driven primarily by market-wide demand and supply conditions rather than by the credit risk of the instruments. See Kay Giesecke, Francis A. Longstaff, Stephen Schaefer, and Ilya Strebulaev, “Corporate Bond Default Risk: A 150 Year Perspective,” *Journal of Financial Economics*, vol. 102, no. 2, 2011, pp. 233-250. This research also shows that, on average, credit spreads revert to their means over time, with spreads on more credit risky instruments reverting more slowly. See Francis A. Longstaff and Eduardo S. Schwartz, “Valuing Credit Derivatives,” *Journal of Fixed Income*, vol. 5, no. 1, 1995, pp. 6-12. Recent research on (indices of) subprime mortgage-related securities, particularly senior securities, indicates that the value of these securities was substantially reduced by market illiquidity, house price depreciation, and other common economic factors during the financial crisis. See Richard Stanton and Nancy Wallace, “The Bear’s Lair: Index Credit Default Swaps and the Subprime Mortgage Crisis,” *Review of Financial Studies*, vol. 24, no. 10, 2011, pp. 3250-3280; Mardi Dungey, Gerald P. Dwyer, and Thomas Flavin, “Systematic and Liquidity Risk in Subprime Mortgage-Backed Securities,” Federal Reserve Bank of Atlanta Working Paper No. 2011-15.

¹⁰ Due to the costs involved, reporting firms may not “refresh” borrower and loan characteristics post-loan origination in estimating OTT credit losses on their securities. Accounting standards and practices generally do not specify whether or when these characteristics should be updated. An exception is that bank regulatory guidance for calculating allowance for loan losses for junior-lien residential mortgages (i.e., loans, not securities based on these loans) indicates that institutions with significant holdings of these mortgages should periodically refresh credit quality indicators. See Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation,

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delinquency statuses). Non-security specific relevant economic conditions (e.g., house price depreciation and unemployment) have widespread effects beyond the securities under consideration. During the financial crisis, adverse changes in relevant economic conditions reduced the cash flows expected to be generated by, and thus the fair values of, all non-agency mortgage-related securities, in part by causing adverse changes in security-specific factors. For example, house price depreciation reduced borrowers' wealth, increased loan-to-value ratios, and reduced borrowers' ability and willingness to make their mortgage payments and thus increased mortgage delinquencies and defaults.¹¹

18. Temporary and OTT non-credit losses on the At-Issue Certificates constitute a large portion of the total losses the GSEs recorded on the securities. For example, as of August 31, 2011, three days before Plaintiff filed their original Complaint, Freddie Mac and Fannie Mae together had recorded temporary and OTT non-credit losses of \$220 million for their seven At-Issue Certificates, all classified as AFS, which equals 55 percent of the \$401 million total decrease in fair value for the At-Issue Certificates over this period.

19. In my opinion, no justifiable grounds exist to attribute any appreciable portion of Freddie Mac's and Fannie Mae's reported temporary losses or OTT non-credit losses on the AFS At-Issue Certificates to any alleged deficiencies in the underlying mortgage loans and therefore to any alleged misstatements in the Offering Documents for the At-Issue Certificates.

National Credit Union Administration, Office of the Comptroller of the Currency, *Interagency Supervisory Guidance on Allowance for Loan and Lease Losses Estimation Practices for Loans and Lines of Credit Secured by Junior Liens on 1-4 Family Residential Properties*, January 31, 2012 at pp. 2-3.

¹¹ See Neil Bhutta, Jane Dokko, and Hui Shan, "The Depth of Negative Equity and Mortgage Default Decisions," *Federal Reserve Board Finance and Economics Discussion Series* No. 2010-35, Federal Reserve Board, Washington, D.C., May 2010.

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20. As reflected in Freddie Mac's and Fannie Mae's own accounting choices¹² for the AFS At-Issue Certificates and their financial report disclosures of temporary losses on the At-Issue Certificates, these losses predominantly resulted from financial market factors, such as market illiquidity, that increased the market discount rates underlying the fair value of all non-agency mortgage-related securities during the financial crisis and that the GSEs expected to reverse over time. In fact, the GSEs' public financial reports and internal documents produced in this litigation of which I am aware do not attribute temporary losses or OTT non-credit losses to any meaningful extent to security-specific factors (other than those caused by adverse changes in economic conditions). Moreover, Freddie Mac and Fannie Mae do not expect to realize the temporary and OTT non-credit losses they have recorded, given their intent and ability, as disclosed in their financial statements, to hold these types of securities (including the At-Issue Certificates) to maturity or full recovery of fair value.¹³

21. Freddie Mac and Fannie Mae increased their OTT credit losses on the At-Issue Certificates as a percentage of total losses of fair value on the securities over time, e.g., from 33

¹² Throughout this report, I assume that Freddie Mac's and Fannie Mae's accounting choices reflect their best understanding of the level and drivers of the value of the At-Issue Certificates given the economic circumstances existing at each fiscal period end. This assumption is reasonable for two primary reasons. First, the relevant accounting guidance requires that "[i]n determining whether a credit loss exists, an entity shall use its best estimate of the present value of cash flows expected to be collected from the debt security." FASB Staff Position No. FAS 115-2 and FAS 124-2, *Recognition and Presentation of Other-Than-Temporary Impairments*, April 9, 2009, ¶ 23. A best estimate reflects all relevant information available at the time it is developed. Second, the GSEs' choices affect balance sheet and income statement amounts reported in the financial statements they have filed on Form 10-K with the SEC. For each 10-K filing, the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") have certified that, based on their knowledge, "this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report" and "the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report." See, e.g., Exhibits 31.1, ¶¶ 2-3, and 31.2, ¶¶ 2-3, to the 2011 10-K filings of Fannie Mae and Freddie Mac.

¹³ While a *non-credit* loss may be realized upon selling a security, only *credit* losses reflecting reduced cash flows will be realized when holding a security to maturity. The non-credit losses recorded as accumulated other comprehensive income ("AOCI") will reverse over time, with an offset to the book value of the security and no effect on net income. See related discussion in Section VI.

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percent in 2009 to 45 percent as of August 31, 2011¹⁴ and 54 percent in 2012.¹⁵ In disclosing these losses in financial reports and internal documents, Freddie Mac and Fannie Mae indicate that the GSEs attributed their OTT credit losses in large part to changes in general economic conditions, such as house price depreciation and unemployment, rather than to security-specific factors. Statements by Freddie Mac indicate this is particularly true for losses occurring more than a year or two after the purchase of the securities.¹⁶

22. For example, Fannie Mae reported in its 2010 and 2011 Form 10-K filings that “[a] substantial portion of these fair value losses and write-downs related to our investments in private-label mortgage-related securities backed by Alt-A and subprime mortgage loans . . . [is] due to the decline in home prices and the weak economy.”¹⁷ Similarly, Freddie Mac reported in its 2010 and 2011 Form 10-K filings that “home prices declined significantly, after extended periods during which home prices appreciated. *As a result*, the fair value of [non-agency mortgage-related securities] has declined significantly since 2007 and we have incurred substantial losses through other-than-temporary impairments.”¹⁸

23. Statements in the GSEs’ internal documents explain that forecasts of relevant economic conditions, particularly house prices, play primary or significant roles in their modeling of OTT credit losses for non-agency mortgage-related securities. For example, Fannie

¹⁴ Exhibits A and B to Plaintiff’s Second Set of Objections and Responses to Defendants Third Set of Interrogatories, March 27, 2013 (providing data as of August 31, 2011 for the At-Issue Certificates identified in the September 2, 2011 complaints). See Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. September 2, 2011) (“Complaint”).

¹⁵ Because GAAP did not specify that the GSEs separate OTT impairment losses into OTT credit losses and OTT non-credit losses until April 2009 and the GSEs have provided data on their accounting for the At-Issue Certificates only as of the ends of the 2008, 2009, 2010, and 2012 fiscal years and August 2011, the first date for which I can observe OTT credit losses on the At-Issue Certificates is the end of 2009.

¹⁶ As discussed in paragraph 24, Freddie Mac purchased its last At-Issue Certificate on April 26, 2007. Fannie Mae purchased its At-Issue Certificate on November 16, 2005.

¹⁷ Fannie Mae 2010 10-K, p. 55; Fannie Mae 2011 10-K, p. 61.

¹⁸ Freddie Mac 2010 10-K, p. 45 (emphasis added); see also Freddie Mac 2011 10-K, p. 54.

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Mae indicates that its best estimate of cash flows “is built around Fannie Mae’s estimate of the future path of home prices on a regional level. These home prices feed into the ABS Deal Analytics Model, which incorporates other models (e.g. interest rates, default, severity, etc.), that represent the company’s estimate as it relates to modeling the securities to derive projected cash flows.”¹⁹ Freddie Mac indicates that “to estimate future credit losses [our] models use loan characteristics such as current LTV, delinquency status and FICO scores. They also require assumptions about future home prices and interest rates.”²⁰

24. In addition, as described in a 2008 presentation from Freddie Mac’s management to its Audit Committee, “weak underwriting issues, borrower misrepresentation, or fraud create early delinquencies *but should be only a small factor after the first year or two.*”²¹ Given that Freddie Mac’s last purchase of an At-Issue Certificate occurred on April 26, 2007²² and Fannie Mae’s purchase of its At-Issue Certificate occurred on November 16, 2005,²³ by Freddie Mac’s own admission it is unlikely that the additional OTT credit losses the GSEs recorded on the At-Issue Certificates in the fourth quarter of 2009 or in subsequent years resulted to any significant extent from alleged deficiencies in the underlying mortgage loans. Thus, Freddie Mac’s and Fannie Mae’s financial report disclosures and internal documents during the relevant period attributed the GSEs’ OTT credit losses on the AFS At-Issue Certificates primarily to factors other than the effects (if any) of security-specific factors such as alleged deficiencies in the

¹⁹ “Q4 2009 Impairments Overview,” Fannie Mae, February 25, 2010, FHFA13012684 – 704 at FHFA13012686.

²⁰ “Information Related to Security Impairments,” Freddie Mac, September 3, 2009, FHFA09589593 – 607 at FHFA09589595.

²¹ “Impairments on Securities,” Freddie Mac, August 4, 2008, PWC-FHFA-FM-0000485 – 505 at PWC-FHFA-FM-0000503 (emphasis added).

²² See Exhibit A to Plaintiff’s Responses and Objections to Defendants’ Second Set of Interrogatories, December 13, 2012.

²³ See Exhibit B to Plaintiff’s Responses and Objections to Defendants’ Second Set of Interrogatories, December 13, 2012.

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underlying mortgages or alleged misstatements in the offering materials for the At-Issue Certificates.

25. I understand that Freddie Mac and Fannie Mae accounted for their forward purchase commitments for certain of the At-Issue Certificates as derivatives at the commitment date, i.e., prior to the settlement of the commitments.²⁴ For the one At-Issue Certificate purchased by Fannie Mae and for all six At-Issue Certificates purchased by Freddie Mac, the commitment date occurred before the issuance of the corresponding prospectus supplement. Based on the applicable accounting rules, I conclude that the GSEs deemed themselves to be obligated to purchase (and Nomura obligated to sell) the At-Issue Certificates at a fixed price at the commitment dates for which they recognized purchase commitments as derivatives. That is, the issuances of the corresponding prospectus supplements did not create, alter, or otherwise influence these obligations accounted for as derivatives.

B. Organization of Report

26. In Section V, I describe the general GAAP requirements for Freddie Mac's and Fannie Mae's At-Issue Certificates and describe how the GSEs applied these requirements in accounting for those securities. In Section VI, I describe the specific GAAP requirements for Freddie Mac's and Fannie Mae's OTT-impaired AFS At-Issue Certificates and how the GSEs applied these requirements in accounting for those securities. In Section VII, I discuss my calculations of the amounts, timing, and financial statement classification of Freddie Mac's and Fannie Mae's fair value losses on the AFS At-Issue Certificates. I explain what can reasonably be concluded from these attributes of the fair value losses regarding whether the GSEs deemed

²⁴ March 12, 2013, Deposition of Jack Myers, at 31:6-34:5; March 1, 2013, Deposition of Kirk Silva, at 58:17-59:4. To be accounted for as derivatives, these commitments must not have qualified for the regular-way trade exception according to the definition of a derivative specified in paragraph 10.a of FAS 133.

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these losses to be attributable to changes in financial market conditions or general economic conditions as opposed to security-specific factors. Appendix C summarizes the approach I used in making the calculations discussed in this section. In Section VIII, I discuss the implications of Freddie Mac and Fannie Mae accounting for commitments to purchase the At-Issue Certificates as derivatives prior to the settlement date or the date at which the corresponding prospectus supplement was issued.

V. OVERVIEW OF RELEVANT GAAP FOR FREDDIE MAC'S AND FANNIE MAE'S AT-ISSUE CERTIFICATES

27. In this section, I describe the relevant GAAP for the At-Issue Certificates and how Freddie Mac and Fannie Mae applied those principles to these types of securities. In Section V.A, I describe FAS 115's accounting requirements for investment securities. I briefly discuss OTT impairments and how the definition of and accounting for these impairments changed in April 2009. In Section V.B, I describe FAS 157's guidance for measuring fair values, particularly when markets are illiquid, as they were for non-agency mortgage-related securities during the financial crisis and as they remain to a lesser but still substantial extent for these securities today. In Section V.C, I describe the GAAP criteria for OTT impairments of AFS securities in FAS 115 and other accounting standards. This overview provides necessary background for my detailed discussion and analysis of Freddie Mac's and Fannie Mae's OTT impairments of their AFS At-Issue Certificates in Sections VI and VII.

A. FAS 115's Accounting Requirements for Investment Securities

28. As the GSEs treated the At-Issue Certificates as debt securities for accounting purposes, I describe the required accounting only for debt securities, which I refer to simply as securities. Many but not all aspects of FAS 115's required accounting are the same for equity securities.

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29. Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities* (“FAS 115”), requires firms holding securities (“holders”) to classify the securities at inception into one of three categories for which the required accounting treatments differ: trading, held to maturity (“HTM”), and AFS.²⁵ The required treatment depends primarily on the holders’ *intent* regarding the securities. This intent pertains both to the holders’ purposes for acquiring securities and the periods over which they expect to hold securities. To classify securities as trading, holders must have the positive intent to trade the securities, typically in the short term and for profit.²⁶ To classify securities as HTM, holders must have both the positive intent and also the ability to hold the securities to maturity to earn interest revenue over time.²⁷ Other securities are classified as AFS, a catch-all category for all other intents.²⁸

30. Reflecting the need for holders to have a positive intent to classify securities as trading or HTM, FAS 115 indicates that transfers of securities into and out of these categories after initial assignment should be rare.²⁹ Holders that reclassify trading or HTM securities may “taint” their portfolios of those securities, disallowing securities from being classified in those categories for a period of time, typically two or three years. In part because of this consequence for after-the-fact mischaracterization of securities, AFS is by far the most common classification

²⁵ Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, May 1993, ¶ 6.

²⁶ Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, May 1993, ¶ 12.a.

²⁷ Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, May 1993, ¶¶ 58-59.

²⁸ Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, May 1993, ¶ 12.b.

²⁹ Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, May 1993, ¶ 15.

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of securities by firms. In my observation, this is true even for firms that typically retain securities to maturity.

31. It appears that Freddie Mac and Fannie Mae did not classify any of the At-Issue Certificates as HTM or trading. Therefore, I only describe the accounting that FAS 115 requires for the AFS category of securities below.

32. Holders recognize AFS securities at fair value on the balance sheet. However, they record realized gains and losses (including all OTT losses prior to April 2009 and OTT credit losses after April 2009) on these securities in net income and unrealized gains and losses (including OTT non-credit losses after April 2009) in other comprehensive income (“OCI”) each period.

33. At the time of purchase, a security’s amortized cost basis equals its purchase price.³⁰ Thereafter, the amortized cost basis equals the initial amortized cost basis plus cumulative interest revenue (an increase in income) minus cumulative cash principal and interest received (an increase in operating cash flow) and, for AFS securities, minus the cumulative OTT losses recorded in net income.³¹

34. The holder of a security accrues interest revenue each period equal to the security’s amortized cost basis multiplied by the current effective interest rate. For a fixed-rate non-OTT impaired security, the security’s effective interest rate is its initial yield. For a

³⁰ As discussed below, amortized cost bases are involved in the calculation of interest revenue for all debt securities, including trading securities that are otherwise accounted for on a fair value basis.

³¹ FAS 115 and financial reporting rules focus on OTT impairment write-downs of AFS and HTM securities, because these write-downs reduce the amount of net income recorded in a period. For simplicity, I maintain this focus in my report. The amount of interest revenue that should be recorded for a security does not depend on whether it is classified as trading, AFS, or HTM. See FASB EITF Abstracts, Issue No. 99-20, *Recognition of Interest Income and Impairment on Purchased Beneficial Interests and Transferor’s Beneficial Interests in Securitized Financial Assets Obtained in a Transfer Accounted for as a Sale*, p. 5, Dates Discussed November 17-18, 1999; January 19-20, 2000; May 17-18, 2000; July 19-20, 2000; September 20-21, 2000; November 15-16, 2000; January 17-18, 2001).

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floating-rate non-OTT impaired security, the security's effective interest rate is the contractually specified floating rate benchmark plus a contractually specified or calculated adjustment to the benchmark. As discussed in Section VI.A below, some OTT impairments of AFS securities require holders to recalculate effective interest rates to equate the written-down amortized cost basis to the present value of the expected cash flows. Increases in expected cash flows subsequent to OTT impairments always require such recalculations because OTT credit losses are not reversible; the only way to capture economic reversals of these credit losses is by increasing the effective interest rates and "accreting" these economic gains through increased interest revenue over the remaining life of the securities.

35. The holder of an AFS security must write down the amortized cost basis of that security when it determines that the security is OTT impaired; as discussed in Section VI, the amount of the write-down may differ pre- and post-April 2009. Holders generally must evaluate AFS securities for OTT impairment at the individual security level at the end of each fiscal quarter.³² I describe the GAAP definition of and required accounting for OTT impairments in Sections V.C and VI below.

36. Based on work conducted to date using the documents and other information produced in discovery, I conclude that Freddie Mac classified all six of its At-Issue Certificates as AFS. I base this conclusion on analysis of Freddie Mac's OTT-impaired AFS securities in the work papers as well as data provided by Plaintiff in response to Defendants' interrogatory requests.³³ I conclude that Fannie Mae classified its one At-Issue Certificate as AFS. I base this

³² FASB Staff Position Nos. FAS 115-1 and FAS 124-1, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*, November 3, 2005, ¶¶ 7 and 10.

³³ Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013 included information about non-OTT impaired At-Issue Certificates. Freddie Mac's auditor was PricewaterhouseCoopers LLP. See Freddie Mac 2008 10-K, p. 181.

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conclusion on analysis of Fannie Mae's OTT-impaired AFS securities in the GSEs' work papers as well as data provided by Plaintiff in response to Defendants' interrogatory requests.³⁴

B. Fair Valuation under FAS 157

37. Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* ("FAS 157"), defines the fair value of an asset as the price the holder would receive from selling the asset in an orderly transaction at the measurement date.³⁵ The "measurement date" is the balance sheet date for the financial statements being presented. The "orderly transaction" notion contemplates the holder engaging in marketing activities to attract potential purchasers and potential purchasers conducting due diligence to eliminate any information advantage of the seller. These activities may take considerable time to successfully complete during periods of market illiquidity, rendering the notion that orderly transactions could occur at the measurement date somewhat hypothetical during those periods.³⁶

38. Essentially, the fair value of an asset equals the present value of the cash flows that the asset is expected to generate discounted at the current market rate reflected in orderly transactions. Fair values decrease as expected cash flows decrease or as these market discount rates increase. Fair values increase in the opposite cases.

³⁴ Exhibit A to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013. Fannie Mae's auditor was Deloitte & Touche LLP. See Fannie Mae 2008 10-K, p. 217.

³⁵ Statement of Financial Accounting Standards No. 157, *Fair Value Measurements*, September 2006, ¶ 5.

³⁶ I discuss this hypothetical aspect in more detail in several recent papers: Stephen G. Ryan, "Fair Value Accounting: Understanding the Issues Raised by the Credit Crunch," *Council of Institutional Investors White Paper*, July 2008, at p. 14, 18-19; Stephen G. Ryan, "Accounting in and for the Subprime Crisis," *The Accounting Review*, vol. 83, no. 6, 2008, pp. 1605-1638 at p. 1625; Stephen G. Ryan, "Financial Reporting for Financial Instruments," *Foundations and Trends in Accounting*, vol. 6, no. 3-4, 2012, pp. 187-354 at pp. 262-263, 296.

39. The current market discount rate includes an illiquidity premium to the extent one would be reflected in orderly transactions at the measurement date.³⁷ Due to this inclusion of illiquidity premia, market illiquidity reduces fair values. When actual transactions are forced or otherwise disorderly, the observed transaction prices for assets generally are lower than their fair values based on hypothetical orderly transactions. Similarly, the return of market liquidity, which yields lower illiquidity premia, increases both fair values and observed transaction prices, and causes the two measures to converge.

40. FAS 157 develops a hierarchy of three types of inputs used to measure fair values. Level 1 inputs are unadjusted quoted market prices in active markets for identical items. With a few narrow exceptions, FAS 157 requires firms to measure fair values using Level 1 inputs when they are available because a “quoted price in an active market provides the most reliable evidence of fair value.”³⁸ However, even during periods when markets exhibit normal liquidity, Level 1 inputs generally do not exist for the At-Issue Certificates in this litigation.

41. Level 2 inputs are other directly or indirectly observable market data. These inputs include quoted market prices in active markets for similar items or in inactive markets for identical items. In measuring fair value, these prices typically need to be adjusted for market illiquidity or differences between the item being fair valued and the item for which the price quote is provided. Level 2 inputs also include other observable market inputs such as yield curves, exchange rates, and estimated correlations of observable market data. These other inputs are used in model-based fair value measurements.

³⁷ FASB Staff Position No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, October 10, 2008, makes this point explicitly, but it is also true under FAS 157, as issued.

³⁸ Statement of Financial Accounting Standards No. 157, *Fair Value Measurements*, September 2006, ¶ 24. The limited exceptions to fair value measurement are noted in ¶¶ 25–26.

42. Level 3 inputs are unobservable, firm-supplied inputs, such as internal estimates of loss rates or forecasts of relevant prices, and are used in model-based fair value measurements. These inputs should reflect the assumptions that market participants would use.

43. Thus, in contrast to Level 1 inputs, which are observable and highly reliable, fair values measured using either Level 2 inputs or Level 3 inputs are estimates subject to assumptions and uncertainties. While FAS 157 “prioritizes” Level 2 over Level 3 inputs, the standard does not require reporting firms to use Level 2 inputs if Level 3 inputs reflect “the assumptions that market participants would use in pricing the asset or liability.”³⁹ FASB Staff Position No. 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, indicates that Level 2 inputs should be used over Level 3 inputs only if the former are “relevant.”⁴⁰ FASB Staff Position No. 157-4, *Determining Fair Value When the Volume and Level of Activity for the Asset or Liability Have Significantly Decreased and Identifying Transactions That Are Not Orderly*, provides a list of indicators as to when the volume and level of activity for an asset or liability have significantly decreased, resulting in transactions that are not orderly.⁴¹ During periods of market illiquidity such as the financial crisis, firms may have to measure the fair value of their financial instruments using lower-level inputs (e.g., Level 3 rather than Level 2) than during normal economic times, either because the higher-level inputs are not available or because Level 2 inputs are not relevant.

³⁹ Statement of Financial Accounting Standards No. 157, *Fair Value Measurements*, September 2006, ¶¶ 11 and 22.

⁴⁰ FASB Staff Position No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, October 10, 2008, ¶ 9.b.

⁴¹ FASB Staff Position No. FAS 157-4, *Determining Fair Value When the Volume and Level of Activity for the Asset or Liability Have Significantly Decreased and Identifying Transactions That Are Not Orderly*, April 9, 2009.

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44. In Fannie Mae's internal accounting policy documents,⁴² and in both Freddie Mac's and Fannie Mae's public financial reports,⁴³ the GSEs indicate they relied on third-party pricing services either to directly determine the fair value of non-agency securities or to verify the fair values generated by internal models. The GSEs also indicate that the high market illiquidity that arose during the depths of the financial crisis caused them to view the prices provided by these services, which are based on the market and other information available to the services, as changing from Level 2 to Level 3 inputs. For example, in its 2008 Form 10-K filing, Freddie Mac states:

Our Level 3 items mainly represent non-agency residential mortgage-related securities and our guarantee asset. During 2008, the market for non-agency securities backed by subprime, Alt-A and other and MTA mortgage loans became significantly less liquid, which resulted in lower transaction volumes, wider credit spreads and less transparency. We transferred our holdings of these securities into the Level 3 category as inputs that were significant to their valuation became limited or unavailable. We concluded that the prices on these securities received from pricing services and dealers were reflective of significant unobservable inputs.⁴⁴

From year-end 2008 through 2012, Freddie Mac's fair values for virtually all non-agency securities backed by subprime, Alt-A, and other mortgage loans depended on Level 3 inputs.⁴⁵

⁴² Internal documents indicating Fannie Mae's reliance on third-party pricing services include "Fannie Mae Framework Methodology (PBC)," Fannie Mae, Prepared: March 30, 2007, Reviewed: April 4-6, 2007, DT 000009 – 11.

⁴³ Fannie Mae 2011 10-K, p. F-118; Freddie Mac 2012 10-K, p. 300.

⁴⁴ Freddie Mac 2008 10-K, p. 256. Internal documents indicating Freddie Mac's fair valuation of non-agency securities include: "Impairment Process for Non-Agency Securities," Freddie Mac, January 9, 2008, FHFA00770837 – 9; "Impairment Review of Non-Agency Securities – 1st Qtr 2008, March Data Update," Freddie Mac, May 6, 2008, FHFA04883581 – 5; "1Q 2010 Other than Temporary Impairment Review," Freddie Mac, April 29, 2010, FHFA11940845 – 54.

⁴⁵ Freddie Mac 2008 10-K, p. 256; Freddie Mac 2009 10-K, p. 190; Freddie Mac 2010 10-K, p. 266; Freddie Mac 2011 10-K, p. 291; Freddie Mac 2012 10-K, p. 294.

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This was also the case for Fannie Mae's fair values for private-label mortgage securities backed by subprime loans.⁴⁶ In its 2008 Form 10-K filing, Fannie Mae states:

The increase in level 3 balances during the year ended December 31, 2008 resulted from the transfer from level 2 to level 3 of primarily private-label mortgage-related securities backed by Alt-A or subprime loans, or loans backed by manufactured housing, partially offset by liquidations. This transfer reflects the ongoing effects of the extreme disruption in the mortgage market and severe reduction in market liquidity for certain mortgage products, such as private-label mortgage-related securities backed by Alt-A loans, subprime loans and loans backed by manufactured housing. Due to the reduction in recently executed transactions and market price quotations for these instruments, the market inputs for these instruments are less observable.⁴⁷

These quotes are consistent with the fair values of the At-Issue Certificates being substantially depressed by financial market illiquidity.

C. GAAP Criteria for Determining Whether AFS Securities Are OTT Impaired

45. As discussed below, the criteria for determining whether an OTT impairment has occurred have changed over time, including with the issuance of FASB Staff Position No. FAS 115-2 and FAS 124-2, *Recognition and Presentation of Other-Than-Temporary Impairments* in April 2009. (I frequently refer to this FASB Staff Position as "the FSP.") In the remainder of this section, I explain the OTT impairment criteria that existed before April 2009 in order to provide context for impairment-related statements made by Fannie Mae and Freddie Mac through early 2009.

46. Under FAS 115, as issued, an AFS security was deemed OTT impaired if it was probable that the holder would not receive the cash flows expected at the time of purchase or, for

⁴⁶ Fannie Mae 2008 10-K p. F-114; Fannie Mae 2009 10-K p. F-114; Fannie Mae 2010 10-K, p. F-118; Fannie Mae 2011 10-K, p. F-111; Fannie Mae 2012 10-K, p. F-82. These tables also show that Fannie Mae used Level 2 inputs for some of its Alt-A private label securities classified as AFS during this period.

⁴⁷ Fannie Mae 2008 10-K, p. F-115. Internal documents indicating Fannie Mae's fair valuation of non-agency securities include "Fannie Mae Framework Methodology (PBC)," Prepared: March 30, 2007, Reviewed: April 4-6, 2007, DT 000009 – 11; "Q4 2010 Impairments Overview," Fannie Mae, February 9, 2011, FHFA13012332 – 56.

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securities subject to prior OTT impairment write-downs, the cash flows expected at the time of the most recent prior impairment.⁴⁸ In other words, a security was deemed OTT impaired if it was probable that the cash flows to be received would be below those reflected in the amortized cost basis of the security. In GAAP, “probable” is defined as “likely to occur”⁴⁹ or “a higher level of likelihood than ‘more likely than not.’”⁵⁰ In practice, preparers and auditors of financial reports commonly use a threshold of seventy percent or more for “probable.”⁵¹

47. GAAP recognized that the probability that the holder recovers the amortized cost basis of a security may depend on the holder’s ability and intent to hold the security until recovery of that basis. If the holder did not have both this ability and intent, so that it was

⁴⁸ The GAAP definition of OTT impairment has changed somewhat over time. Paragraph 16 of FAS 115, as issued, defines a security as OTT impaired if it is probable that the holder will not receive the contractually promised cash flows. FASB Staff Position Nos. FAS 115-1 and FAS 124-1, *The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments*, November 3, 2005, pp. 2 and 5, defines a security as impaired if its fair value is below its amortized cost basis and generally refers to other accounting literature (most relevantly, SEC SAB Topic 5M and FASB Staff Position No. EITF 99-20) for guidance as to whether the impairment is OTT, although this FSP specifies (actually carries along EITF Topic No. D-44’s prior guidance) that an impairment is OTT if the holder has decided to sell the security and the holder does not expect full recovery of the fair value of the security prior to sale. SAB Topic 5M, Staff Accounting Bulletin, Miscellaneous Accounting: *Other Than Temporary Impairment of Certain Investments in Equity Securities* (originally SAB 59), indicates that impairments of larger size and longer duration are more likely to be OTT. In April 2009 this guidance was incorporated into paragraph 25 of FSP FAS 115-2 and FAS 124-2 for debt securities, so that SAB Topic 5M now only applies to equity securities. FASB EITF Abstracts, Issue No. 99-20, *Recognition of Interest Income and Impairment on Purchased Beneficial Interests and Transferor’s Beneficial Interests in Securitized Financial Assets Obtained in a Transfer Accounted for as a Sale*, Discussed November 17-18, 1999; January 19-20, 2000; May 17-18, 2000; July 19-20, 2000; September 20-21, 2000; November 15-16, 2000; January 17-18, 2001, indicates that an OTT impairment is a decline in the fair value of a security below its amortized cost basis that reflects a decline in expected cash flows based on the best available information.

⁴⁹ Statement of Financial Accounting Standards No. 5, *Accounting for Contingencies*, March 1975, ¶ 3.a.

⁵⁰ EITF Abstracts, Appendix D, Topic No. D-80, *Application of FASB Statements No. 5 and No. 114 to a Loan Portfolio*, discussed May 19-20, 1999.

⁵¹ See, e.g., Deloitte, “Making History: A Look at a Move to IAS 37 from the Longstanding FAS 5 and its Effect on Buy-Sell Transactions,” 2009, available at: http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_fas_buy_sell_280509.pdf; Ernst & Young, “US GAAP versus IFRS: The basics,” November 2012, available at: [http://www.ey.com/Publication/vwLUAssets/IFRSBasics_BB2435_November2012/\\$FILE/IFRSBasics_BB2435_November2012.pdf](http://www.ey.com/Publication/vwLUAssets/IFRSBasics_BB2435_November2012/$FILE/IFRSBasics_BB2435_November2012.pdf). Freddie Mac indicates that it uses a threshold of 80 percent for “probable.” See “Impairment Process for Non-Agency Securities,” Freddie Mac, January 9, 2008, FHFA00770837 – 9 at FHFA00770837.

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probable the holder would not recover the amortized cost basis, then a security would be OTT impaired whenever its fair value was below its amortized cost basis under GAAP.

48. Consistent with guidance provided by their regulators, the Office of Federal Housing Enterprise Oversight (“OFHEO”) and FHFA, Freddie Mac and Fannie Mae employed filters based on credit ratings, the extent and duration of declines in fair value, and other factors to identify securities that potentially were OTT impaired. The firms then subjected these potentially impaired securities to more detailed break-even analyses (Freddie Mac) and stress tests (Fannie Mae) to determine whether it was probable that the securities would not generate the cash receipts that were expected at the time of purchase or, for securities subject to prior OTT impairment write-downs, the cash flows expected at the time of the most recent prior impairment.⁵²

49. Decreases in fair value arising from decreases in expected cash flows do not reverse *on average*; a decrease in expected cash flows that was expected to reverse on average would not fully reflect the information available at the time the expectation was formed and thus would not be a proper expectation.⁵³ Of course, these decreases will reverse afterwards in the specific cases when circumstances turn out to be better than expected. In contrast, decreases in fair value arising from market-wide increases in discount rates attributable to market illiquidity or reduced willingness by market participants to bear credit and other risks generally do reverse

⁵² “#1113 – Accounting for SFAS 115 Investment Portfolio OTTI for AFS Securities,” Freddie Mac, September 30, 2004, FHFA13242053 – 71; “4Q 2008 Other Than Temporary Impairment Review,” Freddie Mac, January 23, 2008, FHFA08487536 – 46; “Impairment Accounting Overview,” Fannie Mae, May 15, 2007, FHFA01747883 – 96; “Q1 Impairments Overview,” Fannie Mae, April 26, 2008, FHFA05874399 – 422.

⁵³ This is a fundamental mathematical relation referred to as the “law of total expectation.”

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as financial markets return to normal, as they eventually do. This predictable reversal explains why GAAP defines OTT impairment in terms of declines in cash flows rather than fair values.⁵⁴

50. Consistent with this explanation, Freddie Mac and Fannie Mae generally did not view declines in fair value, in and of themselves, as evidence of the existence or magnitude of OTT impairments. For example, in a January 9, 2008 memorandum summarizing its impairment process for non-agency securities, Freddie Mac states that “[w]e believe that the pricing in the current market is more influenced by liquidity concerns and rating agency downgrades rather than by actual credit risk/loss expectations.”⁵⁵ In a January 23, 2009 memorandum summarizing its fourth quarter 2008 OTT impairment write-downs in the depths of the crisis, Freddie Mac states “[w]e believe much of the recent declines in fair value to be related to factors other than the probability of our receipt of all of our contractual cash flows, thus, the dollar price itself is less informative about the nature of the price declines as it has been in the past.”⁵⁶ Consistent with these statements, Freddie Mac indicates that it recorded OTT impairment write-downs of \$6.2 billion, less than one-quarter of the \$26.0 billion gross unrealized losses, on private-label mortgage-related securities in the fourth quarter of 2008.⁵⁷

51. Similarly, in a memorandum summarizing its first quarter 2008 impairments, Fannie Mae states “fair value price is not currently used as an indicator of other-than-temporary impairment as management believes current pricing is more of an indicator of illiquidity in the

⁵⁴ See footnote 9 above for discussion of empirical research in finance showing that time-variation in discount rates is primarily attributable to market-wide effects and that market discount rates revert to normal levels over time.

⁵⁵ “Impairment Process for Non-Agency Securities,” January 9, 2008, Freddie Mac, FHFA03886206 – 8 at FHFA03886207.

⁵⁶ “4Q 2008 Other Than Temporary Impairment Review,” Freddie Mac, January 23, 2008, FHFA08487536 – 46 at FHFA08487539.

⁵⁷ “4Q 2008 Other Than Temporary Impairment Review,” Freddie Mac, January 23, 2008, FHFA08487536 – 46 at FHFA08487536.

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market than it is a credit risk indicator.”⁵⁸ Consistent with this statement, Fannie Mae indicates that it did not record any OTT impairment write-downs for \$9.3 billion of gross unrealized losses on AFS securities as of March 31, 2008, \$7.8 billion of which is attributable to Alt-A and subprime mortgage-related securities.⁵⁹

VI. REQUIRED AND ACTUAL ACCOUNTING FOR FREDDIE MAC’S AND FANNIE MAE’S OTT-IMPAIRED AFS AT-ISSUE CERTIFICATES

52. The required accounting treatment for OTT-impaired AFS securities changed as a result of the issuance of the FSP in April 2009. Although the FSP amended FAS 115, many of the standard’s original provisions remain in effect. For clarity, I use the past tense in describing the pre-April 2009 accounting treatment under FAS 115, as issued, and the present tense in describing the post-April 2009 accounting treatment under FAS 115 as amended by the FSP. I describe both the pre- and post-April 2009 accounting treatments at the time of OTT impairments in Section VI.A and subsequent to OTT impairments in Section VI.B. Because the accounting for OTT impairments is both detailed and changes from pre- to post-April 2009, I illustrate this accounting using a numerical example. In addition, I describe the required transition adjustment from the pre- to post-April 2009 accounting treatments in Section VI.C, the difference between OTT credit losses and principal and interest shortfalls in Section VI.D, certain fair value measurement changes by Freddie Mac and Fannie Mae during 2012 in Section VI.E, and reversals of Freddie Mac’s losses on non-agency mortgage-related securities during 2013 in Section VI.F.

⁵⁸ “Q1 Impairments Overview,” Fannie Mae, April 26, 2008, FHFA05874399 – 422 at FHFA05874409.

⁵⁹ “Securities Credit Impairment Overview,” Fannie Mae, May 16, 2008, FHFA05829215 – 36 at FHFA05829217-18.

A. At the Time of OTT Impairments

53. Pre-April 2009 (under FAS 115, as issued): Prior to April 2009, FAS 115 required holders of OTT-impaired AFS securities to reduce both the *balance sheet valuations* and the *amortized cost bases* of these securities to fair value at the time of the impairments, with the entire OTT loss recorded in net income. Because holders must have already recorded unrealized losses on AFS securities that occurred in prior periods in other comprehensive income, and they may have already recorded unrealized losses occurring earlier in the current period in other comprehensive income as well, OTT impairments of these securities often simply reclassify those losses from accumulated other comprehensive income (“AOCI”) to net income.

54. FAS 115, as issued, effectively treated OTT impairments of AFS securities as fully realized losses even though the securities were not sold, so that no actual realization of losses through reduced cash receipts occurred. That is, the accounting for OTT impairments of securities was identical to the accounting that would have resulted if the holders had sold the securities and bought them back for their impaired amortized cost bases.

55. FAS 115 further required the holder to revise the effective interest rate to the rate that equated the fair value of the security to the expected future principal and interest cash receipts at the time of the impairment.⁶⁰ As discussed in Section VI.B, the holder initially used this effective interest rate to accrue interest revenue on the security subsequent to the impairment.

⁶⁰ FAS 115, as issued, does not explicitly say that the effective interest rate must be recalculated in this fashion, but it is a necessary outcome of the standard’s requirement to irreversibly write down OTT-impaired securities to fair value, and it is close to acknowledged in paragraph 113 of the standard.

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56. Post-April 2009 (under FAS 115 as amended by FSP FAS 115-2 and FAS 124-2):⁶¹ The highly illiquid markets that existed during the financial crisis, which depressed the fair values of all but very low credit risk securities, motivated the FASB to issue the FSP. As discussed below, the FSP has two major effects on the recognition of OTT impairments:

- The FSP defines OTT impairment as any decrease in expected cash flows that results in the holder not expecting to recover the entire amortized cost basis of the securities, whether or not that decrease is probable. This definition should increase the frequency of OTT impairments.
- The FSP reduces the losses that holders of OTT-impaired securities must record in net income if they do not intend to sell the securities and more likely than not will not be required to sell the securities before recovery of the amortized cost basis less the portion of the current period OTT loss that is recorded in net income (hereafter, “the amortized cost basis less the current period OTT credit loss”). For securities that the holder intends to sell or more likely than not would be required to sell before such recovery, the FSP retains the previously required accounting under FAS 115, as issued, described above.

57. The FSP requires holders of OTT-impaired AFS securities to reduce the balance sheet valuations of these securities to fair value at the time of impairment. This is the same treatment as required by FAS 115 as issued.

58. If the holder of an OTT-impaired AFS security does not intend to sell the security and more likely than not will not be required to sell the security before recovery of the amortized

⁶¹ Both “Implementation Guidance for FSP FAS 115-2 Recognition of Other-Than-Temporary Impairments,” Freddie Mac, July 7, 2009, FHFA13242072 – 85, and “Accounting Policy for Other-Than-Temporary Impairment of Debt Securities,” Fannie Mae, June 30, 2009, FHFA11441988 – 2001, describe the GSEs’ interpretations and approaches to implementing FSP FAS 115-2 and FAS 124-2.

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cost basis less the OTT credit loss, then the holder must: (A) write down the amortized cost basis of the security to the present value of the expected cash flows discounted at the previously determined effective interest rate; (B) record this write-down (the OTT credit loss) in net income; and (C) record the difference (if any) between the present value of expected cash flows discounted at that effective interest rate and the fair value of the security (the OTT non-credit loss) in other comprehensive income. In other words, only the portion of the write-down to fair value that is attributable to reductions in expected cash flows is recorded as a reduction of net income. The portion of the write-down to fair value that is attributable to increases in the current market discount rate is recorded as a reduction of other comprehensive income.

59. The FSP refers to the portion of an OTT impairment write-down that is recorded in net income as the “credit loss.” The credit loss captures decreases in expected cash flows that are not expected to reverse on average, as discussed above. In contrast, the remaining “non-credit loss” portion of the decrease in fair value predominantly captures changes in financial market conditions, such as market illiquidity or reduced willingness by market participants to absorb credit and other risks, that generally reverse when these markets return to normal. Thus, even though the entire impairment amount is called OTT, the non-credit loss portion is treated as temporary.⁶²

60. If the holder intends to sell an AFS security or it more likely than not will be required to sell the security before recovery of its amortized cost basis less the current period OTT credit loss, then the pre-April 2009 impairment accounting rules apply. That is, the holder

⁶² “The amount of the total impairment related to all other factors is recognized in other comprehensive income. The total other-than-temporary impairment is presented in the statement of earnings with an offset for the amount of the total other-than-temporary impairment that is recognized in other comprehensive income.” FASB Staff Position No. FAS 115-2 and FAS 124-2, *Recognition and Presentation of Other-Than-Temporary Impairments*, April 9, 2009, ¶ 9.

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records the entire OTT impairment write-down as a reduction of the amortized cost basis of the security and as a reduction in net income.

61. Numerical example: This numerical example is summarized in Table 1. Panel A summarizes the accounting for the example under FAS 115, as issued, while Panel B summarizes the accounting under FAS 115, as amended by the FSP.⁶³

Table 1
Illustration of Accounting for Unrealized Losses Under FAS 115

Panel A: Under FAS 115 As Issued (pre-April, 2009)							
Scenario	Fair Value	Decrease in Fair Value	OTT Impaired?	Asset Book Value	Amortized Cost Basis	Unexpected Reduction in:	
						Accumulated Other Comprehensive Income	Net Income
Original Issuance	\$ 346.51						
(1): Effective Interest Rate increases from 6% to 8%	\$ 331.21	\$ (15.30)	No	\$ (15.30)	-	\$ (15.30)	-
(2): Expected cash flows fall to \$85/period	\$ 294.53	\$ (51.98)	Yes	\$ (51.98)	\$ (51.98)	-	\$ (51.98)
(3): Combination of (1) and (2)	\$ 281.53	\$ (64.98)	Yes	\$ (64.98)	\$ (64.98)	-	\$ (64.98)

Panel B: Under FAS 115 As Amended by the FSP in April, 2009							
Scenario	Fair Value	Decrease in Fair Value	OTT Impaired?	Asset Book Value	Amortized Cost Basis	Unexpected Reduction in:	
						Accumulated Other Comprehensive Income	Net Income
Original Issuance	\$ 346.51						
(1): Effective Interest Rate increases from 6% to 8%	\$ 331.21	\$ (15.30)	No	\$ (15.30)	-	\$ (15.30)	-
(2): Expected cash flows fall to \$85/period	\$ 294.53	\$ (51.98)	Yes	\$ (51.98)	\$ (51.98)	-	\$ (51.98)
(3): Combination of (1) and (2)	\$ 281.53	\$ (64.98)	Yes	\$ (64.98)	\$ (51.98)	\$ (13.00)	\$ (51.98)

62. The base scenario in this numerical example involves an AFS debt security for which the issuer contractually promises to pay \$100 at the end of each of the next four years. The initial discount (effective interest rate) of 6% incorporates initial expectations of any non-collections of the contractually promised cash flows, so that the initial fair value of the security, \$346.51, is the present value of the contractually promised cash flows at that discount rate.⁶⁴ To demonstrate the accounting at the time of OTT impairments under both the pre- and post-April

⁶³ As reported in Table 1 (at the time of the OTT impairment) and Table 2 (after the OTT impairment), the example includes “snapshot” fair values, balance sheet valuations, and amortized cost bases of an AFS security for various adverse scenarios at distinct points in time. Because the At-Issue Certificates are amortizing instruments, their outstanding balance declines over time as certificate holders receive principal payments even in the absence of an OTT impairment. See footnote 71 for calculations of these decreases.

⁶⁴ $\$346.51 = \$100/1.06 + \$100/(1.06)^2 + \$100/(1.06)^3 + \$100/(1.06)^4$.

2009 accounting rules, I consider the following three scenarios in which unexpected increases in the current market discount rate and/or decreases in expected cash flows from the base scenario occur at the beginning of the first year (i.e., instantaneously). The first scenario does not involve an OTT impairment and is included to provide a thorough description of when OTT impairments are and are not recorded.

(1) The current market discount rate increases from 6% to 8% due to market illiquidity, which reduces the fair value of the AFS security⁶⁵ to \$331.21. Under both the pre- and post-April 2009 accounting rules, this scenario does not involve an OTT impairment because the expected cash flows are unaffected.

- The \$15.30 decrease in the fair value of the securities (\$331.21 - \$346.51) is recorded as a reduction of the balance sheet valuation of the securities and a reduction of other comprehensive income; the amortized cost basis of the securities does not change.
- Assuming no further changes and the holder retains the security until maturity, the loss recorded in accumulated other comprehensive income will fully reverse over the remaining life of the security. This reversal occurs because interest revenue on the security is accrued at the original, but now below-market, discount rate of 6%, which causes the higher amortized cost and lower fair value of the security to gradually converge over its remaining life.

(2) Expected cash flows decrease from \$100 to \$85 per year. This reduces the fair value of the AFS security to \$294.53.⁶⁶ Under both the pre- and post-April 2009

⁶⁵ $\$331.21 = \$100/1.08 + \$100/(1.08)^2 + \$100/(1.08)^3 + \$100/(1.08)^4$.

⁶⁶ $\$294.53 = \$85/1.06 + \$85/(1.06)^2 + \$85/(1.06)^3 + \$85/(1.06)^4$.

accounting rules, this scenario involves an OTT impairment of \$51.98 (\$294.53 - \$346.51). The entire OTT loss is recorded as reductions of the balance sheet value and amortized cost basis of the securities and of net income, because the entire loss is attributable to decreased expected cash flows (i.e., there is no increase in the current market interest rate).

(3) The combination of scenarios (1) and (2) occurs, which reduces the fair value of the security to \$281.53.⁶⁷ This scenario involves an OTT impairment in which the \$64.98 loss (\$281.53 - \$346.51) is recorded differently pre- and post-April 2009.

- Under FAS 115 as issued, the entire OTT loss of \$64.98 is recorded as reductions of the balance sheet valuation and amortized cost basis of the securities and of net income. Subsequent to the impairment, interest revenue is initially accrued at the now higher discount (effective interest) rate of 8% on the now-lower amortized cost basis.
- Under FAS 115, as amended by the FSP, the loss is partly an OTT *credit loss* of \$51.98 (the same loss as in scenario 2, which results from the reduced expected cash flows) that is recorded as reductions of the balance sheet valuation and amortized cost basis of the securities and of net income.
 - The remainder of the loss is an OTT *non-credit* loss (of \$13.00, the difference between the total OTT loss of \$64.98 and the OTT credit loss of \$51.98) that is recorded as decreases in the balance sheet valuation of the securities and other comprehensive income.

⁶⁷ $\$281.53 = \$85/1.08 + \$85/(1.08)^2 + \$85/(1.08)^3 + \$85/(1.08)^4$.

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- Subsequent to the impairment, interest revenue is initially accrued at the original lower discount rate of 6% (compared to the 8% rate under FAS 115, as issued) on the higher amortized cost basis of \$294.53 (compared to the \$281.53 basis under FAS 115, as issued).
- Assuming the holder retains the security until maturity, it will accrue \$13 less interest revenue under FAS 115, as amended by the FSP, than under FAS 115, as issued. This reduction in interest revenue perfectly offsets the lower (by \$13) impairment loss recognized through the income statement under FAS 115, as amended by the FSP.

B. Subsequent to OTT Impairments

63. Common Aspects Pre- and Post-April 2009: While FAS 115, both as issued and as amended by the FSP, requires AFS securities to be recorded on the balance sheet at fair value, the standard prohibits holders from reversing OTT impairment write-downs of the amortized cost bases of AFS securities through subsequent direct write-ups of those bases, no matter whether or the extent to which the expected cash receipts for these securities subsequently increase.

64. Reflecting this prohibition, the amortized cost basis of an OTT-impaired security at any point subsequent to an OTT impairment write-down equals the fair value of the security at the time of the most recent prior OTT impairment write-down plus cumulative accrued interest revenue and minus cumulative cash receipts since that impairment. If the expected cash flows for an OTT-impaired security increase above those expected at the time of the most recent prior OTT impairment, then, depending on the type of securities involved, either EITF 99-20⁶⁸ or SOP

⁶⁸ FASB EITF Abstracts Issue No. 99-20, *Recognition of Interest Income and Impairment on Purchased Beneficial Interests and Transferor's Beneficial Interests in Securitized Financial Assets Obtained in a Transfer Accounted for as a Sale*, Dates Discussed: November 17–18, 1999; January 19–20, 2000; May 17–18, 2000; July 19–20, 2000; September 20–21, 2000; November 15–16, 2000; January 17–18, 2001.

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03-3⁶⁹ requires the holder to increase the effective interest rate to the rate that equates the amortized cost basis to the present value of the expected cash flows. An increase in the effective interest rate essentially is necessary because of FAS 115's prohibition on direct write-ups of the amortized cost bases of securities.

65. Pre-April 2009 (under FAS 115, as issued): If the holder determined that it probably would receive less than the cash flows expected at the time of the most recent prior impairment, then FAS 115, as issued, required the holder to record another OTT impairment write-down.

66. Because EITF 99-20 and SOP 03-3 require holders of OTT-impaired securities to calculate the interest rates to accrue interest revenue each fiscal period, FAS 115, as issued, required Freddie Mac and Fannie Mae to keep track of the cash flows expected to be generated by their holdings of OTT-impaired AFS securities. This requirement implies that information about any economic reversals of OTT impairments of the At-Issue Certificates should be available prior to April 2009.

67. Post-April 2009 (under FAS 115 as amended by FSP FAS 115-2 and FAS 124-2): If the holder does not intend to sell the security and more likely than not will not be required to sell the security before recovery of amortized cost basis less the OTT credit loss, then a similar approach is used as in the pre-April 2009 accounting treatment with two primary exceptions. First, the effective interest rate used to accrue interest revenue is lower under the post-April 2009 accounting treatment than the pre-April 2009 treatment, due to the lesser write-down of the amortized cost basis under the post-April 2009 treatment (e.g., the 6% versus 8% effective interest rate in scenario 3 of the numerical example just discussed). Second, the OTT non-credit

⁶⁹ AICPA Statement of Position 03-3, *Accounting for Certain Loans or Debt Securities Acquired in a Transfer*, December 12, 2003.

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loss is reversed if the current market discount rate decreases post OTT impairment under the post-April 2009 treatment, whereas the total OTT loss is non-reversible under the pre-April 2009 treatment discussed above.

68. If the holder intends to sell the security or more likely than not does not have the ability to hold the securities until recovery of the post-impairment amortized cost basis, then the post-April 2009 accounting treatment is identical to the pre-April 2009 treatment.

69. Continuation of the numerical example: This numerical example is summarized in Table 2. Panel A summarizes the accounting for the example under FAS 115, as issued, while Panel B summarizes the accounting under FAS 115, as amended by the FSP.

Table 2
Illustration of Accounting for Recovery of Unrealized Losses Under FAS 115

Panel A: Under FAS 115 As Issued (pre-April, 2009)							
Scenario	Fair Value	Amortized Cost Basis ¹	Increase in Fair Value	Effective Interest Rate	Unexpected Change In:		
					Asset Book Value	Accumulated Other Comprehensive Income	Ending Accumulated Other Comprehensive Income
(3): Expected Cash Flows of \$85, 8% Interest Rate	\$ 219.05	\$ 219.05	-	8%	-	-	-
(3A): Expected Cash Flows of \$95, 8% Interest Rate	\$ 244.82	\$ 219.05	\$ 25.77	14.41%	\$ 25.77	\$ 25.77	\$ 25.77
(3B): Expected Cash Flows of \$85, 6% Interest Rate	\$ 227.21	\$ 219.05	\$ 8.16	8%	\$ 8.16	\$ 8.16	\$ 8.16

Panel B: Under FAS 115 As Amended by the FSP in April, 2009							
Scenario	Fair Value	Amortized Cost Basis ²	Increase in Fair Value	Effective Interest Rate	Unexpected Change In:		
					Asset Book Value	Accumulated Other Comprehensive Income	Ending Accumulated Other Comprehensive Income
(3): Expected Cash Flows of \$85, 8% Interest Rate	\$ 219.05	\$ 227.21	-	6%	-	-	\$ (8.16)
(3A): Expected Cash Flows of \$95, 8% Interest Rate	\$ 244.82	\$ 227.21	\$ 25.77	12.24%	\$ 25.77	\$ 25.77	\$ 17.61
(3B): Expected Cash Flows of \$85, 6% Interest Rate	\$ 227.21	\$ 227.21	\$ 8.16	6%	\$ 8.16	\$ 8.16	-

Notes:

1 Under FAS 115 As Issued, at the time of impairment, Amortized Cost equals Fair Value.

2 Under FAS 115 As Amended by the FSP, at the time of impairment, Amortized Cost exceeds Fair Value when OTT non-credit losses have been recognized.

3 The ending balance of Accumulated Other Comprehensive Income reflects both the unexpected changes (Scenarios 3A and 3B) and the expected changes due to the passage of time.

70. To demonstrate the accounting subsequent to the time of OTT impairments, I consider the following two scenarios extending scenario (3) in the numerical example in Section VI.A. In scenario (3A), the expected cash flows on the security increase post OTT impairment, i.e., the prior decrease in expected cash flows reverses afterwards. In scenario (3B), the current market interest rate for the security decreases, as one would expect as financial market liquidity

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returns to normal.⁷⁰ In both scenarios, these changes occur at the end of the first year after the first cash flow has been received and the first year of interest has been accrued; these events affect the amortized cost bases and fair value of the security, and thus the amount of accumulated other comprehensive income, prior to the changes in scenarios (A) and (B).⁷¹ For the post-April 2009 accounting, I assume that the holder has the intent to hold and more likely than not will not be required to sell the security before recovery of the amortized cost basis less the current OTT credit loss.

(A) The expected cash flows rise to \$95 per year and the current market discount rate remains 8%. This scenario yields an economic gain of \$25.77, which equals the difference between the pre-change fair value⁷² of \$219.05 and the current fair value⁷³ of \$244.82. FAS 115, both as issued and as amended by the FSP, prohibits the holder from immediately recognizing this gain in net income and in the amortized cost basis because the prior OTT (credit) loss cannot be reversed. Instead, the gain is recorded in other comprehensive income and the effective interest rate is raised to recognize the economic gain gradually over the remaining life of the security. For example, assuming no further changes and the holder retains the security until maturity, then:

⁷⁰ I only examine favorable changes in these scenarios, because sufficiently unfavorable changes yield additional OTT impairments that are accounted for in exactly the same fashions as described in Section VI.A.

⁷¹ At the end of year 1 prior to the changes in scenarios (A) and (B), the amortized cost basis of the security under FAS 115, as issued, and the fair value both equal $\$219.05 = \$85/1.08 + \$85/(1.08)^2 + \$85/(1.08)^3$; this amount equals the beginning-of-year 1 amortized cost basis of \$281.53 plus \$22.52 interest revenue (8% of that basis) minus the cash receipt of \$85 at the end of year 1. At this time, the amortized cost basis of the security under FAS 115, as amended by the FSP, equals $\$227.21 = \$85/1.06 + \$85/(1.06)^2 + \$85/(1.06)^3$; this amount equals the beginning-of-year 1 amortized cost basis of \$294.53 plus \$17.67 interest revenue (6% of that basis) minus the cash receipt of \$85 at the end of year 1. Accumulated other comprehensive income equals \$(8.16), the difference between the amortized cost basis of \$227.21 and the fair value of \$219.05.

⁷² $\$219.05 = \$85/1.08 + \$85/(1.08)^2 + \$85/(1.08)^3$.

⁷³ $\$244.82 = \$95/1.08 + \$95/(1.08)^2 + \$95/(1.08)^3$.

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- Under FAS 115, as issued, the effective interest rate becomes 14.41%, which is the discount rate that equates the remaining three cash flows of \$95 to the \$219.05 amortized cost basis at the end of year 1.
- Under FAS 115, as amended by the FSP, the effective interest rate becomes 12.24%, which is the discount rate that equates the remaining three cash flows of \$95 to the \$227.21 amortized cost basis at the end of year 1.

(B) The current market discount rate returns to 6%. This scenario yields an economic gain of \$8.16, which equals the difference between the pre-change fair value⁷⁴ of \$219.05 and the current fair value⁷⁵ of \$227.21.

- Under FAS 115 as issued, this economic gain increases the balance sheet valuation of the security above its amortized cost basis of \$219.05 and \$8.16 is recorded in other comprehensive income. Interest revenue continues to be accrued at 8% on the amortized cost basis.
- Under FAS 115, as amended by the FSP, this economic gain increases the balance sheet valuation of the security to its amortized cost basis of \$227.21 and the \$8.16 accumulated other comprehensive loss created when the security was OTT impaired is eliminated. Interest revenue continues to be accrued at 6% on the amortized cost basis.

C. Transition from Pre- to Post-April 2009 Accounting Treatments

71. For all AFS securities that were OTT impaired prior to April 2009 and that firms held upon the adoption of the FSP, did not intend to sell and more likely than not would not be

⁷⁴ $\$219.05 = \$85/1.08 + \$85/(1.08)^2 + \$85/(1.08)^3$.

⁷⁵ $\$227.21 = \$85/1.06 + \$85/(1.06)^2 + \$85/(1.06)^3$.

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required to sell before recovery of the securities' amortized cost bases less the OTT credit loss, the FSP required holders to replace the cumulative effects of the accounting treatment previously required and employed under FAS 115, as issued, with the cumulative effects of the treatment required under FAS 115, as amended by the FSP. This replacement reduced the holders' cumulative OTT losses on the affected AFS securities recorded in net income by the amount of their cumulative OTT non-credit losses. These amounts were recorded as increases in retained earnings and decreases in accumulated other comprehensive income. Moreover, the decreases in accumulated other comprehensive income were reversible if and to the extent that market interest rates for the securities decrease after the date that the securities were determined to be OTT impaired. This reversal occurred immediately if the market interest rates for the securities had decreased between the dates of the impairment and the FSP adoption.

72. In their second quarter 2009 Form 10-Q filings, Freddie Mac and Fannie Mae disclosed that they recorded pretax increases in retained earnings and decreases in accumulated other comprehensive income of \$15.3 billion and \$8.5 billion, respectively, upon their adoption of the FSP.⁷⁶ These amounts indicate that they ascribed sizable portions of previously recorded OTT losses to OTT non-credit losses that are predominantly driven by changes in financial market conditions. For example, Fannie Mae indicated in internal documents that the \$8.5 billion increase in retained earnings pertained to over \$12 billion of previous OTT impairments.⁷⁷ This implies that approximately 70 percent of its previously recorded OTT losses were attributable to changes in financial market conditions that did not affect expected cash flows.

⁷⁶ These amounts are before releases of deferred tax asset valuation allowances, which further increased retained earnings. See Freddie Mac Form 10-Q, for the quarterly period ended June 30, 2009, pp. 41 and 51; Fannie Mae Form 10-Q, for the quarterly period ended June 30, 2009, pp. 9, 44, 56.

⁷⁷ "Securities Impairment Review," Fannie Mae, February 2010, FHFA05448166 – 71 at FHFA05448169.

D. Relationship of OTT Losses to Realized Principal and Interest Shortfalls

73. Both GSEs have noted that their *realized* principal and interest shortfalls cumulatively to date have been much smaller than their OTT credit losses. For example, Freddie Mac reports that in August 2009 gross unrealized losses on its non-agency AFS securities portfolio equaled \$50.1 *billion* and credit losses recorded in net income to that date equaled \$9.7 *billion*, while principal shortfalls to that date equaled only \$56.6 *million*.⁷⁸ Similarly, Fannie Mae indicates that at the end of 2010 securities in its AFS security portfolio had experienced cumulative principal and interest shortfalls of only \$146 *million*, while the cumulative OTT losses on just the AFS securities with such shortfalls (i.e., not the whole AFS portfolio) equaled \$1.1 *billion*.⁷⁹ The magnitudes of these differences are explainable in part by the fact that OTT credit losses reflect decreases in *expected* cash receipts. In making their “best estimate” of credit losses, the GSEs should have taken into account available information about actual collections and loss realizations for less senior securities.⁸⁰

74. Freddie Mac has emphasized the magnitudes of these differences in its financial reports to date. For example, in its 2009 Form 10-K filing, Freddie Mac states that:

We recorded net impairment of available-for-sale securities in earnings related to non-agency mortgage-related securities of \$667 million during the fourth quarter of 2009.... In addition, \$656 million of the total other-than-temporary impairments primarily related to our non-agency securities for the fourth quarter of 2009 were non-credit-related and, thus, recognized in AOCI. We currently estimate that the future expected principal and interest shortfall on these securities will be significantly less than the recent fair value declines. Since the beginning of 2007, we have incurred actual principal cash shortfalls of \$107 million on

⁷⁸ “Impairments Overview,” Freddie Mac, September 24, 2009, FHFA08494363 – 97 at FHFA08494366.

⁷⁹ “Q4 2010 Impairments Overview,” Fannie Mae, February 9, 2011, FHFA13012332 – 56 at FHFA13012353.

⁸⁰ See, e.g., “Nomura Home Equity Loan, Inc. Asset-Backed Certificates Series 2006 FM1,” Trustee Report, January 25, 2011. The first CUSIP listed on page 1, 65536HBT4, is among the At-Issue Certificates in this matter.

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impaired securities. However, many of our investments were structured so that realized losses are recognized when the investment matures.⁸¹

In its 2012 Form 10-K filing, Freddie Mac states that:

Since the beginning of 2007, we have incurred actual principal cash shortfalls of \$2.8 billion on impaired non-agency mortgage-related securities, including \$315 million and \$1.3 billion related to the three and twelve months ended December 31, 2012, respectively. Many of the trusts that issued non-agency mortgage-related securities we hold were structured so that realized collateral losses in excess of structural credit enhancements are not passed on to investors until the investment matures. We currently estimate that the future expected principal and interest shortfalls on non-agency mortgage-related securities we hold will be significantly less than the fair value declines experienced on these securities.⁸²

75. These passages from Freddie Mac's financial reports⁸³ indicate that the realization of losses on senior securities may take considerable time due to the privileged positions of these securities in securitization payment waterfalls and other structural features of securitizations that delay the realization of losses on these securities. These passages also indicate that Freddie Mac expects to ultimately experience realized principal and interest shortfalls that are "significantly less than the fair value declines [to date] experienced on these securities."⁸⁴

76. Moreover, as noted in paragraph 24 above, Freddie Mac acknowledged that the importance of loan underwriting diminishes relative to borrowers' payment histories and changes in economic conditions as loans season.⁸⁵ To the extent that Freddie Mac recorded impairments more than two years after a security was issued, given the length of the elapsed time involved it is unlikely that these impairments are attributable to loan underwriting deficiencies rather than changes in economic conditions and their effects on the borrowers in the mortgages underlying

⁸¹ Freddie Mac 2009 10-K, pp. 106-107.

⁸² Freddie Mac 2012 10-K, pp. 117-118.

⁸³ Fannie Mae's financial reports do not appear to provide similar disclosures.

⁸⁴ Freddie Mac 2012 10-K, pp. 117-118.

⁸⁵ "Impairments on Securities," Freddie Mac, August 4, 2008, PWC-FHFA-FM-0000485 – 505 at PWC-FHFA-FM-0000503.

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the At-Issue Certificates.⁸⁶ In addition, Eric Rosenblatt, a Fannie Mae vice president responsible for Credit Risk Analytics and Monitoring, stated that housing prices were the most significant systemic factor affecting mortgage performance, adding “if home prices go down, you know, nationally your whole book just went down.”⁸⁷ Similarly, Peter Niculescu, a Fannie Mae executive vice president, stated that “[i]f home prices declined far enough, essentially any loan can incur loss.”⁸⁸ Thus, based on the GSEs’ own acknowledgments regarding the diminished importance of loan underwriting over time and the importance of housing prices on mortgage performance, there is no basis to ascribe to deficient underwriting any impairments recorded years after the non-agency mortgages that underlie the At-Issue Certificates were originated - particularly when the most severe economic conditions since the Great Depression occurred during the intervening period.⁸⁹

E. 2012 Fair Valuation Changes

77. As financial market liquidity for non-agency mortgage-related securities gradually returns to normal levels, temporary losses and OTT non-credit losses should reverse for the GSEs’ OTT impaired securities.⁹⁰ However, these reversals have been and will continue to be

⁸⁶ See December 6, 2013, Deposition of Donald Bisenius, at 442:13-25 (“Q. And then after the first couple of years, a default is less likely to be tied to some kind of defect in the loan? ... A. My view on it, it had less direct correlation to some of the underwriting factors, although not exclusively. I remember having conversations with folks about that. Q. For those later defaulting loans, you’d expect it to be more likely caused by some kind of macroeconomic or issue specific to the borrower, correct? A. That was my general belief.”).

⁸⁷ November 8, 2013, Deposition of Eric Rosenblatt, at 187:12-17. Rosenblatt added, “if home prices had not fallen, we wouldn’t be having this discussion. I mean, we would -- Fannie Mae would be a going concern and my stock options would be worth money, so it would have a huge effect.” *Id.* at 188:3-8.

⁸⁸ December 10, 2013, Deposition of Peter Niculescu, at 193:6-7. See also *id.* 193:8-25.

⁸⁹ Alan Greenspan, “The Crisis,” *Brookings Papers on Economic Activity*, Spring 2010, pp. 201-261 at pp. 216-218; “Greenspan: Economy in ‘once-in-a-century’ crisis,” CNNMoney.com, September 14, 2008, available at <http://money.cnn.com/2008/09/14/news/economy/greenspan/>, accessed November 11, 2013.

⁹⁰ In addition, Freddie Mac noted in July 2012 that forecasted improvements in housing prices “will have a positive impact, by decreasing the PV of losses by \$900 million.” “Impairment Review Committee 2Q 2012, Second IRC Meeting,” Freddie Mac, July 11, 2012, FHFA13305122 – 43 at FHFA13305128.

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obscured by the fact that both Freddie Mac and Fannie Mae modified their approaches to fair valuing the At-Issue Certificates during 2012 in ways that caused significant incremental write-downs of the At-Issue Certificates. These incremental write-downs either reduced underlying reversals of previously recognized losses on the securities or created the appearance of increasing losses.

78. For example, Freddie Mac states in its 2012 Form 10-K filing that:

For purposes of our cumulative credit deterioration analysis, our estimate of the present value of expected future credit losses on our available-for-sale non-agency mortgage-related securities decreased to \$13.2 billion at December 31, 2012 from \$14.0 billion at December 31, 2011. All of these amounts have been reflected in our net impairment of available-for-sale securities recognized in earnings in this period or prior periods. The decrease in the present value of expected future credit losses was primarily driven by: (a) improvements in forecasted home prices over the expected life of our available-for-sale securities; (b) the impact of lower interest rates in 2012 resulting in a benefit from expected structural credit enhancements on the securities; and (c) realized cash shortfalls. This decrease was partially offset by an increase in the present value of expected future credit loss estimates related to the impact of our implementation, in the fourth quarter of 2012, of a third-party model, which enhanced our approach to estimating other-than-temporary impairments of our single-family non-agency mortgage-related securities.⁹¹

Hence, even including the higher expected losses resulting from a fair valuation modeling change in the fourth quarter of 2012, Freddie Mac still experienced a reversal of previously recorded losses on non-agency mortgage-related securities during 2012. If these modeling changes had not occurred, the reversals of previously recorded losses would have been even larger. Freddie Mac further indicates the large size of the incremental write-downs due to modeling changes in its 2012 Form 10-K filing:

During the fourth quarter of 2012, we enhanced our approach to estimating other-than-temporary-impairments of our single-family non-agency mortgage-related securities by implementing a third-party model, which increases the level of disaggregation for certain assumptions used in projecting cash flow estimates for

⁹¹ Freddie Mac 2012 10-K, p. 117.

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these securities. We estimate that, as of the beginning of the fourth quarter of 2012, these enhancements would have increased net impairment of available-for-sale securities recognized in earnings and therefore decreased net income by \$1.3 billion.⁹²

Hence, Freddie Mac's losses during 2012 would have been \$1.3 billion less had it not switched to a new impairment estimation model at the end of 2012. Freddie Mac stated that the new model applied certain assumptions at a more granular (disaggregated) level. At the same time, however, Freddie Mac noted that:

Economic factors negatively impacting the performance of our investment in non-agency mortgage-related securities since 2007 include high unemployment, a large inventory of seriously delinquent mortgage loans and unsold homes, tight credit conditions, and weak consumer confidence. In addition, subprime, option ARM, and Alt-A and other loans backing the securities we hold have significantly greater concentrations in the states that have undergone the greatest economic stress, such as California and Florida.⁹³

To the extent that the 2012 impairment model applied these factors at a "more granular" level, the resulting higher credit losses largely reflect variation in relevant economic conditions across geographical areas and mortgage products, rather than alleged deficiencies in the underlying loans.

79. Similarly, Fannie Mae states in its 2012 Form 10-K filing that:

In the second quarter of 2012, we updated our assumptions used to project cash flow estimates on our Alt-A and subprime private-label securities to incorporate recent observable market trends, which included extending the time it takes to liquidate loans underlying these securities and increasing severity rates for loans where the servicer stopped advancing payments. These updates resulted in lower net present value of cash flow projections on our Alt-A and subprime private-label securities and increased our other-than-temporary impairment expense by approximately \$500 million.⁹⁴

Fannie Mae further states that:

⁹² Freddie Mac 2012 10-K, p. 210.

⁹³ Freddie Mac 2012 10-K, p. 119.

⁹⁴ Fannie Mae 2012 10-K, p. 73.

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Net other-than-temporary impairments in 2012 increased compared with 2011. The increase was primarily driven by an update to the assumptions used to project cash flow estimates on our Alt-A and subprime private-label securities in the second quarter of 2012.⁹⁵

Hence, Fannie Mae's 2012 losses on non-agency mortgage-related securities would have been \$0.5 billion less (and apparently close to zero) had it not changed its valuation assumptions in the second quarter of 2012. Fannie Mae's updated assumptions reflected "recent observable market trends," and as noted in the excerpts quoted above, the resulting higher credit losses largely reflect economic conditions rather than alleged deficiencies in the underlying loans.

F. Reversals of the GSEs' Losses on Non-Agency Mortgage-Related Securities During 2013

80. Because Freddie Mac and Fannie Mae have not provided information about their accounting for the At-Issue Certificates after fiscal year end 2012, I cannot analyze the GSEs' 2013 accounting treatment of these specific securities. In their 2013 Form 10-K filings, however, the GSEs provide quantitative information and associated discussion about their aggregate AFS non-agency mortgage-related securities that reveal sizeable economic reversals of their previously recorded temporary losses and OTT losses, both credit and non-credit, on these securities. Specifically, these quantitative disclosures reveal the reversal of temporary and OTT non-credit losses on AFS non-agency mortgage-related securities during 2013 that the GSEs recorded as reductions of accumulated other comprehensive income prior to 2013. The GSEs recorded these reversals as increases in AOCI during 2013.⁹⁶ The associated discussion indicates that these reversals occurred due to reduced credit spreads and other favorable conditions during

⁹⁵ Fannie Mae 2012 10-K, p. 79.

⁹⁶ Reversals of temporary and OTT non-credit losses tend to yield reductions of gross unrealized losses (i.e., reductions of negative AOCI). These increases could yield gross unrealized gains (i.e., positive AOCI), however, to the extent that the GSEs have previously experienced increases in fair value from economic reversals of OTT credit losses on the securities involved.

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the year, as well as the movement of the securities towards maturity. As discussed in Section V.C, the eventual occurrence of these reversals was predictable, although their precise timing was not.

81. These quantitative disclosures also reveal the reversal of OTT credit losses on AFS non-agency mortgage-related securities during 2013 that the GSEs recorded as decreases in earnings prior to 2013. Because accounting rules prohibit immediately recognizing economic reversals of OTT credit losses in earnings, the GSEs recorded these reversals as increases in AOCI during 2013.⁹⁷ The associated discussion indicates that these reversals occurred due to improved cash flow expectations related to house price appreciation and other favorable conditions during the year. As discussed in Section V.C, the eventual occurrence of these reversals was *not* predictable if the GSEs' prior expectations of cash flows were well-formed; assuming this was the case, the reversals reflect *unexpected* after-the-fact favorable conditions.

82. The discussion in the prior two paragraphs indicates that reversals of the GSEs' previously recorded temporary losses, OTT non-credit losses and OTT credit losses during 2013 all yield increases in AOCI, although reversals of temporary and OTT non-credit losses tend to yield reduction of gross unrealized losses while reversals of OTT credit losses tend to yield gross unrealized gains. Hence, without additional disclosures it is not possible to reliably distinguish reversals of temporary and OTT non-credit losses from reversals of OTT credit losses. Freddie Mac provides such additional information in its 2013 10-K, where it discloses the present value of expected future credit losses on AFS non-agency mortgage-related securities at the beginning

⁹⁷ Reversals of OTT credit losses tend to yield gross unrealized gains (i.e., positive AOCI). These reversals could also yield reductions of gross unrealized losses (i.e., reductions of negative AOCI), however, to the extent that the GSEs have previously experienced temporary and OTT non-credit losses on the securities involved.

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of the year and the end of each quarter during the year.⁹⁸ This disclosure enables estimation of the reversal of OTT credit losses during 2013, thereby allowing this reversal to be distinguished from the reversal of temporary and OTT non-credit losses during the year.⁹⁹ Fannie Mae does not provide a comparable disclosure. Freddie Mac also provides considerably more detailed explanatory disclosures regarding these reversals than does Fannie Mae. Finally, Fannie Mae sold a large portion of its AFS non-agency mortgage-related securities during 2013, recording a gain on sale that it does not disclose separately from the \$1.6 billion gross realized gain from its sale of AFS securities.¹⁰⁰

83. For these reasons, I focus on Freddie Mac in this section. I first discuss Freddie Mac's reversal of OTT credit losses during 2013 in detail. I then discuss Freddie Mac's reversal of temporary and OTT non-credit losses during 2013 in detail. Finally, I briefly indicate the conclusions that can be drawn about Fannie Mae's reversal of these types of losses during the year.

84. As described in Section VI.A, OTT credit losses reflect shortfalls of expected cash flows below contractually promised cash payments on AFS securities. These losses reduce both the fair value and the amortized cost basis of the securities and are recorded in net income. Reversals of these losses increase the fair value of the securities. As described in Section VI.B,

⁹⁸ Freddie Mac 2013 10-K, p. 89.

⁹⁹ This disclosure has two subtle aspects that have no significant effects on my calculations or inferences in my report. First, the disclosure pertains only to the reversal of OTT credit losses recorded under FSP FAS 115-2 and FAS 124-2's new approach described in Sections VI.A and VI.B, not OTT losses recorded under FAS 115's original approach also described in those sections. This fact can be determined by reconciling disclosures in Freddie Mac's third quarter 2011 Form 10-Q filing to information in Freddie Mac's internal documents for that quarter. See "3Q 2011 OTTI Review of AFS Securities," Freddie Mac, November 1, 2011, PWC-FHFA-FM-0002213 – 31. Second, this disclosure calculates the present value of expected credit losses using the effective interest rate at the inception of the securities, not the higher rate calculated after any post-OTT-impairment significant improvement in expected cash flows. See Freddie Mac 2013 10-K, p. 89.

¹⁰⁰ Fannie Mae 2013 10-K, pp. 95 and F-37.

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GAAP prohibits immediate write-ups of the amortized cost basis of AFS securities, so the increase in fair value is initially recorded in AOCI rather than net income. This increase in fair value is gradually recognized in net income over the remaining life of the securities by accruing interest revenue at an increased (typically above market) rate.¹⁰¹

85. Freddie Mac discloses that the present value of the expected future credit losses that underlie its OTT credit losses on AFS non-agency mortgage-related (subprime, option ARM, and Alt-A) securities decreased by \$3.2 billion during 2013, from \$12.4 billion as of December 31, 2012 to \$9.3 billion as of December 31, 2013.¹⁰² I demonstrate below how this \$3.2 billion decrease is driven primarily by the economic reversal of OTT credit losses during 2013.

86. Based on categories described in internal Freddie Mac documents for a prior period,¹⁰³ the \$3.2 billion decrease results primarily from three events occurring during 2013.¹⁰⁴

¹⁰¹ Under AICPA Statement of Position 03-3, *Accounting for Certain Loans or Debt Securities Acquired in a Transfer*, December 12, 2003, ¶ 7.b., which governs most aspects of the accounting for OTT-impaired AFS securities after the time of OTT impairment, the effective interest rate is revised upwards only if the increase in expected future cash flows is “significant.” SOP 03-3 and GAAP generally do not provide a precise quantitative definition of “significant.” Freddie Mac’s internal documents indicate that it defines “significant” in this context as a 10% increase in expected future cash flows over two quarters, or one quarter “if a known reason was likely sustainable.” See “Impairment Peer Review Meeting,” Freddie Mac, October 10, 2011, PWC-FHFA-FM-0002210 – 12 at PWC-FHFA-FM-0002210.

¹⁰² Freddie Mac 2013 10-K, p. 89. Freddie Mac’s disclosures of non-agency mortgage-related securities in its 2013 10-K, which I discuss in this section, are not consistent in how they report certain less important types of non-agency mortgages, including home equity lines of credit, manufactured housing, and subprime second liens. Freddie Mac collectively refers to these other mortgage types as “other loans.” To illustrate these inconsistencies, the table disclosed on page 89 of Freddie Mac’s 2013 10-K excludes “other loans.” The table disclosed on page 90 aggregates “other loans” with Alt-A loans. The table disclosed on page 91 aggregates subprime first and second liens into a single line and aggregates the remaining other loans into a separate single line. As the Freddie Mac Q3 2011 Work Paper indicates, the unamortized principal balance of other loans is only about 5% of the unamortized principal balance of total non-agency mortgage-related securities. Therefore, I ignore these minor slippages in the disclosed data in my analysis. See “Q3 2011 Work Paper,” Freddie Mac, September 30, 2011, FHFA17512985.

¹⁰³ “3Q 2011 OTTI Review of AFS Securities,” Freddie Mac, November 1, 2011, PWC-FHFA-FM-0002213 – 31 at PWC-FHFA-FM-0002216. The corresponding document for 2013 has not been produced in this litigation.

¹⁰⁴ It is possible that other events that affected the change in the present value of expected future credit losses on Freddie Mac’s AFS non-agency mortgage-related securities occurred during 2013 as compared to the third quarter of 2011, and thus are not reflected in the Freddie Mac internal document cited in the prior footnote. Freddie Mac’s

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The first event is Freddie Mac's recording of principal shortfalls on the securities during 2013; these *current-period* write-offs reduced expected *future* credit losses on the securities. Freddie Mac discloses that these shortfalls equaled \$955 million during 2013.¹⁰⁵ The second event is Freddie Mac's recognition of new OTT credit impairments on certain of these securities during 2013, which reflects increases in expected future credit losses on those securities. This amount approximately equals Freddie Mac's total OTT impairments on the securities recorded in earnings during 2013 of approximately \$1.5 billion¹⁰⁶ minus the \$568 million of that amount attributable to Freddie Mac's intent to sell AFS securities,¹⁰⁷ which equals \$927 million.¹⁰⁸ The third factor is the economic reversal of previously recorded OTT credit losses on the securities during 2013, which reflects decreased expected future credit losses on the securities. The economic reversal of previously recorded OTT credit losses during 2013 thus equals the \$3.2 billion decrease in expected future credit losses minus the \$955 million principal shortfall (the first event described above) plus the new \$927 million OTT credit loss on the securities during 2013 (the second event described above) which equals \$3.2 billion. That is, Freddie Mac's

disclosures in its 2013 10-K suggest that the effects of any such additional events on the present value of expected future credit losses on these securities are minor. Specifically, Freddie Mac attributes the decrease in the present value of the expected future credit losses during 2013 primarily to "(a) improvements in forecasted home prices over the expected life of [the] available-for-sale securities; and (b) realized cash shortfalls." *See* Freddie Mac 2013 10-K, p. 90. Item (a) is the primary driver of the economic reversal of credit losses on Freddie Mac's AFS non-agency mortgage-related securities during the year, and item (b) is an event that also occurred during the third quarter of 2011 and that I incorporate in the calculations in the text below. Information about the events that occurred during 2013 that affected the present value of expected credit losses on Freddie Mac's AFS securities should appear in internal documents for 2013 analogous to the document for the third quarter of 2011 cited in the prior footnote; such internal documents for 2013 have not been produced in this litigation.

¹⁰⁵ Freddie Mac 2013 10-K, p. 90.

¹⁰⁶ Freddie Mac 2013 10-K, p. 213.

¹⁰⁷ Freddie Mac 2013 10-K, p. 91. Freddie Mac does not disclose the portion of this \$568 million OTT impairment write-down that is attributable to non-agency mortgage-related securities.

¹⁰⁸ The calculation is approximate because of the disclosure issue noted in footnote 107 above. I expect this approximation to be reasonably accurate because Freddie Mac discloses in its 2013 10-K that it has responded to FHFA pressure to dispose of less liquid mortgage-related assets, specifically including non-agency mortgage-related securities. *See* Freddie Mac 2013 10-K, pp. 5-6, 24, 67.

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previously recorded OTT credit losses on these securities of \$12.4 billion reversed by \$3.2 billion during 2013.

87. Moreover, during the first three quarters of 2013, Freddie Mac recorded an almost twice as large \$6.0 billion decrease in the present value of expected future credit losses on AFS non-agency mortgage-related securities. The \$2.8 billion reduction of the decrease in the present value of expected future credit losses from \$6.0 billion in the third quarter of 2013 to \$3.2 billion at the end of 2013 appears to be attributable primarily to Freddie Mac changing the information it uses to predict the cash flows on AFS non-agency securities in the fourth quarter of 2013.¹⁰⁹ This change occurred more than six years after Freddie Mac purchased its last At-Issue Certificate and pertains to loan modifications in the intervening period. Hence, economic reversals of OTT credit losses appear to have been much more than \$3.2 billion during 2013. Regardless, Freddie Mac attributes the decrease in the present value of the expected future credit losses during the year primarily to “(a) improvements in forecasted home prices over the expected life of [the] available-for-sale securities; and (b) realized cash shortfalls.”¹¹⁰

88. As described in paragraph 16, temporary losses and OTT non-credit losses generally are attributable to market-wide factors such as increases in credit risk premia. As described in Section VI.A, these losses reduce the fair value but not the amortized cost basis of securities and yield unrealized losses recorded as reductions of AOCI. As described in Section VI.B, when credit risk premia decrease towards their normal levels, the fair value of the securities rises, increasing AOCI.

¹⁰⁹ Freddie Mac 2013 10-K, p. 66. Freddie Mac recognized \$568 million of losses in earnings in 2013 because it increased the number of AFS securities with unrealized temporary losses or OTT non-credit losses that it intended to sell. This amount is included in the \$2.8 billion reduction of the decrease in the present value of expected future credit losses in the fourth quarter of 2013. *See* Freddie Mac 2013 10-K, pp. 91 and 213.

¹¹⁰ Freddie Mac 2013 10-K, p. 90.

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89. Freddie Mac discloses that AOCI for AFS non-agency mortgage-related securities during 2013 increased by \$9.7 billion.¹¹¹ Since I have determined that the portion attributable to OTT credit losses is \$3.2 billion, the portion attributable to other sources equals \$6.5 billion.¹¹² As discussed above, this \$6.5 billion increase is attributable primarily to reversal of Freddie Mac's previously recorded temporary losses and OTT non-credit losses on these securities. It also stems in part from the portion of the \$568 million OTT impairment loss that Freddie Mac recorded in 2013 due to its intent to sell AFS securities¹¹³ that is attributable to its AFS non-agency mortgage-related securities. This OTT impairment loss involves a reclassification of unrealized temporary or OTT non-credit losses previously recorded in AOCI to losses recorded in earnings. If all of this \$568 million loss is attributable to Freddie Mac's AFS non-agency mortgage-related securities, then \$5.9 billion (\$6.5 billion minus \$568 million) is attributable to reversal of Freddie Mac's previously recorded temporary losses and OTT non-credit losses on these securities. Freddie Mac's disclosures indicate that the decrease "was largely the result of fair value gains related to our investments in single-family non-agency mortgage-related securities, primarily due to the impact of spread tightening and the movement of these securities with unrealized losses towards maturity."¹¹⁴

90. Fannie Mae discloses that its gross unrealized gains on AFS non-agency (subprime and Alt-A) mortgage-related securities increased by \$1.5 billion during 2013 (from

¹¹¹ Freddie Mac 2013 10-K, p. 252.

¹¹² To avoid complexity, I omit discussion in the text of this report of two items that pertain in whole or part to Freddie Mac's reversal of temporary or OTT non-credit losses on non-agency mortgage-related securities during 2013, but that do not significantly affect my inferences about this reversal. First, Freddie Mac recognized \$568 million of losses in earnings in 2013 because it, under FHFA pressure, intended to sell securities with unrealized temporary losses or OTT non-credit losses. *See* Freddie Mac 2013 10-K, pp. 91 and 213. Second, another portion is attributable to the sale of some of these securities during the year, which yielded a net realized gain of \$46 million. *See* Freddie Mac 2013 10-K, p. 214.

¹¹³ Freddie Mac 2013 10-K, p. 91.

¹¹⁴ Freddie Mac 2013 10-K, p. 88.

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\$0.7 billion in 2012 to \$2.1 billion in 2013) and its gross unrealized losses on these securities decreased by \$1.4 billion in 2013 (from \$1.6 billion in 2012 to \$0.2 billion in 2013), for a total increase in AOCI of \$2.9 billion during the year.¹¹⁵ While the increase in gross unrealized gains is more likely to reflect reversal of OTT credit losses, and the decrease in gross unrealized losses is more likely to reflect reversal of temporary or OTT non-credit losses, as discussed above it is not possible to determine precisely the amounts of the reversals of each of these types of loss from Fannie Mae's disclosures.¹¹⁶ Because its securities were subject to the same economic factors disclosed by Freddie Mac, Fannie Mae also likely experienced substantial reversals of all three types of impairments on its aggregate AFS non-agency mortgage-related securities in 2013.

91. Both Freddie Mac's and Fannie Mae's 2013 Form 10-K filings contain other information indicating that previously recorded losses on AFS non-agency mortgage-related securities reversed during 2013. For example, both GSEs report net realized gains on the sale of AFS non-agency mortgage-related securities during the year.¹¹⁷ Fannie Mae's explanatory disclosures in its 2013 10-K suggest that the realized gain on sale of non-agency mortgage-related securities during 2013 represents all or a large portion of its \$1.6 billion gross realized gain on AFS securities during the year.¹¹⁸

92. In summary, Freddie Mac's and Fannie Mae's SEC filings for calendar year 2013 show that both GSEs recognized substantial reversals during 2013 of previous losses on their respective AFS non-agency mortgage-related securities. The reversals of Freddie Mac's and

¹¹⁵ Fannie Mae 2013 10-K, p. F-38.

¹¹⁶ It is possible to determine that at least \$279 million of the reversal of gross unrealized losses is attributable to reversal of temporary losses, because Fannie Mae separately discloses gross unrealized losses on non-OTT impaired securities. *See* Fannie Mae 2013 10-K, p. F-38.

¹¹⁷ Freddie Mac 2013 10-K, p. 214; Fannie Mae 2013 10-K, p. 95.

¹¹⁸ For example, Fannie Mae discloses that "[i]nvestment gains increased in 2013 compared with 2012 primarily due to a significantly higher volume of sales of non-agency mortgage-related securities in 2013 to meet an objective of FHFA's 2013 conservatorship scorecard." *See* Fannie Mae 2013 10-K, p. 75.

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Fannie Mae's temporary losses and OTT non-credit losses on non-agency mortgage-related securities during 2013—partial to date, but expected to continue in future periods—confirm that the corresponding prior declines in fair value stemmed from temporary market conditions rather than any alleged underwriting deficiencies. The reversals of the GSEs' OTT credit losses on non-agency mortgage-related securities during 2013 resulted from unexpected improvement in macroeconomic factors, such as housing prices, that had significantly decreased the GSEs' expectations of cash flows on the securities in prior periods. While these partial reversals of credit losses will continue in future periods only if macroeconomic factors continue to improve, they similarly confirm that factors other than alleged underwriting deficiencies drove a substantial portion of the GSEs' previously recognized OTT credit losses on non-agency mortgage-related securities.

VII. CALCULATIONS AND ANALYSIS OF THE AMOUNT, TIMING, AND CLASSIFICATION OF FAIR VALUE LOSSES ON FREDDIE MAC'S AND FANNIE MAE'S AT-ISSUE CERTIFICATES

93. The various panels of Exhibit 2A report my calculations of the aggregate cumulative temporary, OTT non-credit, and OTT credit losses, as well as the unpaid principal balances ("UPBs"), fair values, and percentage losses of fair values for the AFS At-Issue Certificates collectively held by Freddie Mac and Fannie Mae as of August 31, 2011. This date, three days before Plaintiff filed their original Complaint, is the closest date to the Complaint for which data are available.¹¹⁹ For completeness, this exhibit also reports these variables at the ends of the 2008, 2009, 2010, and 2012 fiscal years. The variables are reported in Panel A for OTT-impaired AFS At-Issue Certificates, Panel B for non-OTT impaired AFS At-Issue Certificates, and Panel C for all seven At-Issue AFS Securities.

¹¹⁹ See Complaint (noting the September 2, 2011 filing date); see also Exhibits A and B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.

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94. Exhibit 2B reports these variables for Freddie Mac's At-Issue Certificates only, while Exhibit 2C reports these variables for Fannie Mae's At-Issue Certificate. Exhibits 3A and 3B report these variables as of August 31, 2011 and December 31, 2012, respectively, for each individual AFS At-Issue Certificate held by Freddie Mac.¹²⁰

95. For simplicity, I focus my discussion and analysis on the collective aggregate losses reported in Exhibit 2A. In each of the panels of this exhibit, I sum the temporary losses for non-OTT impaired securities and the non-credit losses for OTT-impaired securities, i.e., the losses that are driven by changes in financial market conditions and are reversible, which I distinguish from irreversible OTT credit losses.

96. In Appendix C, I describe how I generated these exhibits from the accounting data and impairment calculations produced in connection with this litigation. In particular, I establish that "Temporary Impairments" reported in the GSEs' interrogatory responses equal the sum of temporary loss and the OTT non-credit loss and that "Other Than Temporary Impairments" equal the OTT credit loss. I illustrate my calculations using a sample security.

97. I conclude from analysis of the calculations in Exhibit 2A and statements that Freddie Mac and Fannie Mae made in their public financial reports and internal documents that the GSEs determined that much of the loss of fair value of those securities was temporary or OTT non-credit losses that are predominantly driven by changes in financial market conditions, such as financial market illiquidity and willingness to accept risk, rather than attributable to the quality of mortgage underwriting or other security-specific factors. My conclusions follow from the following primary observations.

¹²⁰ Similar exhibits reporting these variables as of August 31, 2011 and December 31, 2012 for Fannie Mae's one At-Issue Certificate (CUSIP 65535VRJ9) were not created because the information is reported in Exhibit 2C.

98. First, in each fiscal period Freddie Mac and Fannie Mae classified a sizable portion of the total cumulative decline in fair value of the At-Issue Certificates as either temporary losses or OTT non-credit losses. For example, as of August 31, 2011, Freddie Mac and Fannie Mae had together recorded a \$401 million total decrease in fair value for their seven At-Issue Certificates classified as AFS.¹²¹ This amount breaks down as follows.

- a. The temporary loss for Freddie Mac's one non-OTT impaired security is \$9 million. The OTT non-credit loss for the GSEs' six OTT-impaired securities is \$211 million. These temporary and OTT non-credit losses sum to \$220 million, which equals 55 percent of the total decrease in fair value for the At-Issue Certificates over this period. As noted in paragraph 20 above, Freddie Mac and Fannie Mae do not expect to realize the temporary and OTT non-credit losses they have recorded, given their intent and ability, as disclosed in their financial statements, to hold these types of securities (including the At-Issue Certificates) to maturity or full recovery of fair value.¹²²
- b. The OTT credit loss equals the remaining \$181 million decrease in the fair value of the At-Issue Certificates. As discussed below, the timing of Freddie Mac's and Fannie Mae's recording of the OTT credit loss—coming years after the mortgage loans were originated and in the midst of a severe economic downturn—suggests it is

¹²¹ Of the total decrease in the fair value as of August 31, 2011, Freddie Mac recorded \$389 million and Fannie Mae recorded \$12 million.

¹²² While a *non-credit* loss may be realized upon selling a security, only *credit* losses reflecting reduced cash flows will be realized when holding a security to maturity. The non-credit losses recorded as AOCI will reverse over time, with an offset to the book value of the security and no effect on net income. See related discussion in Section VI.

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attributable, at least in significant part, to changes in relevant economic conditions such as house price depreciation and unemployment.¹²³

99. Second, during the financial crisis, house prices depreciated nationally at a rate unprecedented since the Great Depression,¹²⁴ and a severe recession developed.¹²⁵ The dramatic decline in national house prices began after June 2006 according to the S&P/Case-Shiller National Home Price Index and after June 2007 according to the FHFA House Price Index for USA.¹²⁶ This decline severely reduced the expected cash receipts on the mortgages underlying most non-agency mortgage-related securities. This house price depreciation particularly affected the values of non-agency securities backed by “vintages” of mortgages originated closest to the price peak, e.g., the 2006 and 2007 vintages, which did not benefit from much, if any, price appreciation post-origination.¹²⁷ Consistent with this fact, Freddie Mac states that “[t]he vast majority of the impairment charges [recorded for first-subprime mortgage-related securities in

¹²³ OTT credit losses may also be overstated because FAS 115 and the FSP prohibit firms from reversing OTT credit losses when conditions improve. Depending on the geographical location of the non-agency mortgages underlying the At-Issue Certificate and the extent to which the mortgagors were able to rebound from cumulative stresses of the financial crisis and its prolonged aftermath, the relevant economic conditions have improved to some extent as the financial crisis and recession receded. See “US Business Cycle Expansions and Contractions,” National Bureau of Economic Research, available at: <http://www.nber.org/cycles.html>, accessed January 13, 2014; S&P/Case-Shiller Home Price Indices, available at: <http://www.spindices.com/index-family/real-estate/sp-case-shiller>, accessed November 1, 2013; Federal Housing Finance Agency, Monthly House Price Indexes for Census Divisions and U.S. Purchase-Only Index, available at: <http://www.fhfa.gov/Default.aspx?Page=87>, accessed March 6, 2014.

¹²⁴ Stephen G. Ryan, “Accounting in and for the Subprime Crisis,” *The Accounting Review*, vol. 83, no. 6, 2008, pp. 1605-1638, at pp. 1606-1607.

¹²⁵ “US Business Cycle Expansions and Contractions,” National Bureau of Economic Research, available at: <http://www.nber.org/cycles.html>, accessed January 13, 2014.

¹²⁶ S&P/Case-Shiller Home Price Indices, available at: <http://www.spindices.com/index-family/real-estate/sp-case-shiller>, accessed November 1, 2013; Federal Housing Finance Agency, Monthly House Price Indexes for Census Divisions and U.S. Purchase-Only Index, available at: <http://www.fhfa.gov/Default.aspx?Page=87>, accessed March 6, 2014.

¹²⁷ Yuliya Demyanyk and Otto Van Hemert, “Understanding the Subprime Mortgage Crisis,” *The Review of Financial Studies*, vol. 24, no. 6, 2011, pp. 1848–1880.

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the fourth quarter of 2008] came from the 2006 and 2007 vintages.”¹²⁸ Relatedly, Freddie Mac conducted analyses in August 2008 indicating that its unimpaired securities from the 2006 and 2007 vintages were more “at risk for future impairment.”¹²⁹ Freddie Mac’s process for determining the existence and amount of OTT impairments depends on forecasts of house prices, among other factors.¹³⁰

100. Nevertheless, by the end of 2009, when national house prices had stabilized (but had not returned to prior levels),¹³¹ Freddie Mac had still not recorded OTT impairments on two of the At-Issue Certificates. Even for the GSEs’ five OTT-impaired At-Issue Certificates, they determined that a sizable 59 percent of the decrease in fair value was either temporary losses or OTT non-credit losses that resulted predominantly from changes in financial market conditions.

101. It was not until 2010-2012, as the economy recovered unusually slowly and weakly from the severe December 2007-June 2009 recession¹³² and housing and labor markets remained moribund in many parts of the country,¹³³ that Freddie Mac and Fannie Mae recorded further OTT impairments. As discussed in paragraphs 21 through 23 above, the GSEs’ statements regarding these OTT impairments indicate that the GSEs attributed the losses to changes in general economic conditions, such as house price depreciation and unemployment,

¹²⁸ “4Q 2008 Other than Temporary Impairment Review,” Freddie Mac, January 23, 2008, FHFA08487536 – 46 at FHFA08487541.

¹²⁹ “Impairments on Securities,” Freddie Mac, August 4, 2008, FHFA08486834 – 47 at FHFA0848639-41.

¹³⁰ “New Impairments Methodology,” Freddie Mac, February 4, 2009, FHFA09093248 – 62 at FHFA09093255-56.

¹³¹ S&P/Case-Shiller Home Price Indices, available at: <http://www.spindices.com/index-family/real-estate/sp-case-shiller>, accessed November 1, 2013; Federal Housing Finance Agency, Monthly House Price Indexes for Census Divisions and U.S. Purchase-Only Index, available at: <http://www.fhfa.gov/Default.aspx?Page=87>, accessed March 6, 2014.

¹³² “US Business Cycle Expansions and Contractions,” National Bureau of Economic Research, available at: <http://www.nber.org/cycles.html>, accessed January 13, 2014.

¹³³ S&P/Case-Shiller Home Price Indices, available at: <http://www.spindices.com/index-family/real-estate/sp-case-shiller>, accessed November 1, 2013; Federal Housing Finance Agency, Monthly House Price Indexes for Census Divisions and U.S. Purchase-Only Index, available at: <http://www.fhfa.gov/Default.aspx?Page=87>, accessed March 6, 2014.

rather than to underwriting issues arising from the origination of the underlying loans years earlier.

102. A likely explanation for these further impairments is the weak and geographically uneven recovery from a major financial crisis and recession, which was insufficient to overcome the cumulative stresses on many mortgagors, rather than the alleged underwriting deficiencies on mortgages originated three to seven years prior. As Freddie Mac noted in a 2008 presentation to its Audit Committee, “weak underwriting issues, borrower misrepresentation, or fraud create early delinquencies but should only be a small factor after the first year or two.”¹³⁴ Similarly, FHFA has stated that the types of loan defects to which reps and warrants apply “show up in the first few years of a mortgage.”¹³⁵

103. Third, at the end of 2012, Freddie Mac continued to determine that one of its At-Issue Certificates had not experienced OTT impairments. This determination reflects the GSE’s expectations as of the end of 2012 that this Certificate will repay in full, i.e., with no shortfalls in cash flow. It is especially difficult to envision how any alleged underwriting deficiencies could have caused any losses on this Certificate for the GSE.

104. Thus, Freddie Mac’s and Fannie Mae’s financial report disclosures and internal documents during the relevant period attributed the GSEs’ OTT credit losses on the AFS At-Issue Certificates primarily to factors other than the effects (if any) of security-specific factors such as alleged deficiencies in the underlying mortgages or alleged misstatements in the offering materials for the At-Issue Certificates.

¹³⁴ “Impairments on Securities,” Freddie Mac, August 4, 2008, PWC-FHFA-FM-0000485 – 505 at PWC-FHFA-FM-0000503.

¹³⁵ Federal Housing Finance Agency, *FHFA, Fannie Mae and Freddie Mac Announce HARP Changes to Reach More Borrowers*, October 24, 2011, p. 7.

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VIII. THE IMPLICATIONS OF FREDDIE MAC AND FANNIE MAE ACCOUNTING FOR THEIR COMMITMENTS TO PURCHASE THE AT-ISSUE CERTIFICATES AS DERIVATIVES PRIOR TO THE CORRESPONDING SETTLEMENT AND PROSPECTUS SUPPLEMENT DATES

105. Deposition testimony indicates that Freddie Mac and Fannie Mae accounted for their purchase commitments for certain of the At-Issue Certificates as derivatives at the commitment date, i.e., prior to the settlement of the commitment.¹³⁶ As Exhibits 4A and 4B demonstrate, Freddie Mac committed to purchase all six of its At-Issue Certificates at dates earlier than the dates on which the corresponding prospectus supplements were issued, and Fannie Mae committed to purchase its one At-Issue Certificate before the corresponding prospectus supplement issuance date.

106. For a reporting party to recognize an agreement to purchase a security as a derivative for accounting purposes, the agreement must expose the party to the risk of the underlying assets,¹³⁷ and convey rights and obligations arising from past transactions or other events.¹³⁸ Under the conceptual definition of assets and liabilities in paragraphs 26 and 36 of Statement of Financial Accounting Concepts No. 6, assets must yield control rights over future benefits and liabilities must yield obligations with little or no discretion to avoid future sacrifice.¹³⁹

¹³⁶ March 12, 2013, Deposition of Jack Myers, at 31:6-34:5; March 1, 2013, Deposition of Kirk Silva, at 58:17-59:4. To be accounted for as derivatives, these commitments must not have qualified for the regular-way trade exception to the definition of a derivative as specified in paragraph 10.a of FAS 133.

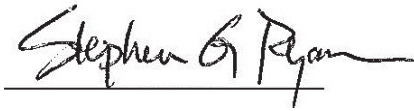
¹³⁷ Statement of Financial Accounting Standards No. 133, *Accounting for Derivative Instruments and Hedging Activities*, June 1998, ¶¶ 6-7.

¹³⁸ Statement of Financial Accounting Standards No. 133, *Accounting for Derivative Instruments and Hedging Activities*, June 1998, ¶¶ 217-218.

¹³⁹ Statement of Financial Accounting Concepts No. 6, *Elements of Financial Statements – a replacement of FASB Concepts Statement No. 3 (incorporating an amendment of FASB Concepts Statement No. 2)*, December 1985, ¶¶ 26 and 36.

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107. For these reasons, for the purchase commitments that Freddie Mac and Fannie Mae accounted for as derivatives, I conclude that the GSEs deemed themselves to be obligated to purchase the At-Issue Certificates in the intervening period between agreeing to and settling the commitments, i.e., before receiving the prospectus supplements. That is, the issuances of the corresponding prospectus supplements did not create or alter these obligations accounted for as derivatives.

A handwritten signature in black ink, reading "Stephen G. Ryan", written over a horizontal line.

Stephen G. Ryan

July 9, 2014

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APPENDIX A

Curriculum Vitae of Stephen G. Ryan

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EDUCATION:

- 1982-1988 **Stanford Graduate School of Business**, Stanford CA.
Ph.D. in Business
Dissertation: Structural Models of the Accounting Process and Earnings
- 1977-1981 **Dartmouth College**, Hanover NH.
A.B. with Honors in Economics and Philosophy
Summa cum Laude and Phi Beta Kappa

EMPLOYMENT:

- 1990-Present **Stern School of Business, New York University**, New York NY.
Professor of Accounting, with tenure, KPMG Faculty Fellow, and Accounting
Doctoral Program Director
- 1986-1990 **Yale School of Organization and Management**, New Haven CT.
Assistant Professor of Accounting
- 1981-1982 **Bain and Company, Management Consultants**, Boston MA.
Associate Consultant

PROFESSIONAL ACTIVITIES:

Federal Reserve Board of New York, Financial Advisory Roundtable, 2012-Present
Financial Accounting Standards Advisory Council, 2000-2003
Financial Accounting Standards Board Liabilities and Equity Resource Group, 2004-Present
Financial Accounting Standards Board Financial Institutions Advisory Group, 2006-Present
American Accounting Association (AAA)/Financial Accounting Standards Board Financial
Reporting Issues Conference Committee, Chair 1998-1999, Member 1995-1996, 2003-2004
AAA Financial Accounting Standards Committee, Chair 2000-2001, Member 1998-2000
AAA Doctoral Consortium, Director, 2001-2002, Committee Member and Presenter, 2006-2007

HIGHLY CONFIDENTIAL

EXPERT WITNESS EXPERIENCE:

Accounting expert on behalf of Countrywide Financial Corporation, in re Countrywide Financial Corporation Securities Litigation, in United States District Court, Central District of California, Western Division, CV 07-05295 MRP. Submitted expert report on March 24, 2010.

Accounting expert on behalf of Eric Sieracki, Angelo Mozilo, and David Sambol, in re Securities and Exchange Commission v. Angelo Mozilo, David Sambol, and Eric Sieracki, United States District Court, Central District of California, Western Division. Submitted expert report on June 21, 2010. Submitted rebuttal report on July 12, 2010. Deposed on July 23, 2010.

Accounting expert on behalf of Merrill Lynch & Co, in re State of New Jersey, Department of Treasury, Division of Investment v. Merrill Lynch & Co., Inc., and Bank of America Corporation, in Superior Court of New Jersey, Law Division, Hudson County, L-3855-09. Submitted expert report on March 30, 2012. Deposed on May 10, 2012.

Accounting expert on behalf of K12 Inc., in re Hoppaugh et al. v. K12 Inc., Packard and Hawks, United States District Court, Eastern District of Virginia, 1:12-CV-00103 (CHM-IDD). Submitted expert report on January 23, 2013.

Accounting expert on behalf of Ernst & Young LLP, in re Lehman Brothers Securities and ERISA Litigation, United States District Court, Southern District of New York. Submitted expert report on November 22, 2013.

Accounting expert on behalf of various firms and individuals in informal inquiries by the United States Securities and Exchange Commission, the United States Department of Justice, and the Office of the New York State Attorney General and in nonpublic or settled litigations, commercial arbitrations, and consulting.

Accounting expert on behalf of Merrill Lynch, in re Federal Housing Finance Agency v. Merrill Lynch & Co., Inc., United States District Court, Southern District of New York, 11 CIV. 06202 (DLC). Submitted expert report on January 23, 2014.

Accounting expert on behalf of Barclays Capital Inc., in re Federal Housing Finance Agency v. Ally Financial Inc., et al, United States District Court, Southern District of New York, 11 CIV. 07010 (DLC). Submitted expert report on March 19, 2014.

Accounting expert on behalf of RBS Securities Inc., in re Federal Housing Finance Agency v. Ally Financial Inc., et al, United States District Court, Southern District of New York, 11 CIV. 07010 (DLC). Submitted expert report on March 19, 2014.

Accounting expert on behalf of Goldman, Sachs & Co., in re Federal Housing Finance Agency v. Ally Financial Inc., et al, United States District Court, Southern District of New York, 11 CIV. 07010 (DLC). Submitted expert report on March 27, 2014.

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Accounting expert on behalf of Goldman, Sachs & Co., in re Federal Housing Finance Agency v. Goldman, Sachs & Co., et al, United States District Court, Southern District of New York, 11 CIV. 06198 (DLC). Submitted expert report on March 27, 2014.

Accounting expert on behalf of HSBC North America Holdings Inc., in re Federal Housing Finance Agency v. HSBC North America Holdings Inc., et al, United States District Court, Southern District of New York, 11 CIV. 06189 (DLC). Submitted expert report on April 23, 2014.

AWARDS, FELLOWSHIPS, AND VISITING SCHOLARSHIPS

2011	American Accounting Association Financial Accounting and Reporting Section Best Paper Award
2009	Emerald Management Reviews Citation of Excellence for one of the 50 best articles published in management in 2008
2006	Co-winner Best Paper Prize for 2005, <i>Accounting Horizons</i>
2004	Co-winner Best Paper Prize, <i>Review of Accounting Studies</i> Conference
1998-Present	Stern School Faculty Fellow
1998	Vrije Universiteit, Amsterdam, The Netherlands, Visiting Scholar
1996-1998	Stern School Summer Research Grant recipient
1992	Coopers and Lybrand Faculty Internship
1991	Ely Kushel Accounting Education Award for Innovation in Teaching

BOOK:

Ryan, S. *Financial Instruments and Institutions: Accounting and Disclosure Rules*, second edition. John Wiley & Sons. 2007. 510 pages. First edition, 2002; translated into Korean, 2003.

RESEARCH PUBLICATIONS:

Dong, M., S. Ryan, and X. Zhang, “Preserving Amortized Cost within a Fair-Value-Accounting Framework: Reclassification of Gains and Losses on Available-for-Sale Securities upon Realization,” *Review of Accounting Studies*, March 2014, pp. 242-280.

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Ryan, S., and P. Zarowin, "Why Has the Contemporaneous Linear Returns-Earnings Relation Declined?" *The Accounting Review*, April 2003, pp. 523-553.

Ryan, S. "Discussion of 'Accounting Conservatism and the Valuation of Accounting Numbers: Evidence on the Feltham-Ohlson Model.'" *Journal of Accounting, Auditing and Finance*, Summer 2000, pp. 293-299.

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Beaver, W., and S. Ryan, "Biases and Lags in Book Value and Their Effects on the Ability of the Book-to-Market Ratio to Predict Book Return on Equity." *Journal of Accounting Research*, Spring 2000, pp. 127-148.

Ryan, S. "Discussion of 'Fair Value Disclosures for Investment Securities and Bank Equity: Evidence from SFAS No. 115.'" *Journal of Accounting, Auditing, and Finance*, Summer 1999, pp. 371-377.

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Antle, R., J. Demski, and S. Ryan, "Multiple Sources of Information, Valuation, and Accounting Earnings." *Journal of Accounting, Auditing, and Finance*, Fall 1994, pp. 675-696.

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**PUBLISHED COMMENTARY ON FINANCIAL REPORTING PROPOSALS
COAUTHORED WITH THE AMERICAN ACCOUNTING ASSOCIATION'S
FINANCIAL ACCOUNTING STANDARDS COMMITTEE (PEER REVIEWED
BEGINNING IN FALL 2000):**

Ryan, S., (chair and principal coauthor), R. Herz, T. Iannacconi, L. Maines, K. Palepu, C. Schrand (principal coauthor), D. Skinner, and L. Vincent, "Reporting Fair Value Interest and Value Changes on Financial Instruments." *Accounting Horizons*, September 2002, pp. 259-267.

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Ryan, S., (chair and principal coauthor), R. Herz, T. Iannacconi, L. Maines, K. Palepu, C. Schrand (principal coauthor), D. Skinner, and L. Vincent, "Recommendations on Hedge Accounting and Accounting for Transfers of Financial Instruments." *Accounting Horizons*, March 2002, pp. 81-93.

Ryan, S., (chair and principal coauthor), R. Herz, T. Iannacconi, L. Maines, K. Palepu, C. Schrand (principal coauthor), D. Skinner, and L. Vincent, "Evaluation of the FASB's Proposed Accounting for Financial Instruments with Characteristics of Liabilities, Equity, or Both." *Accounting Horizons*, December 2001, pp. 387-400.

Ryan, S., (chair), R. Herz, T. Iannacconi, L. Maines (principal author), K. Palepu, C. Schrand, D. Skinner, and L. Vincent, "SEC Auditor Independence Requirements." *Accounting Horizons*, December 2001, pp. 373-386.

Ryan, S., (chair and principal coauthor), R. Herz, T. Iannacconi, L. Maines, K. Palepu, K. Schipper (principal coauthor), C. Schrand, D. Skinner, and L. Vincent (principal coauthor), "Evaluation of the Lease Accounting Proposed in G4+1 Special Report." *Accounting Horizons*, September 2001, pp. 289-298.

Herz, R., T. Iannacconi, L. Maines, K. Palepu, S. Ryan (chair), K. Schipper, C. Schrand, D. Skinner, and L. Vincent (principal author), "Equity Valuation Models and Measuring Goodwill Impairment." *Accounting Horizons*, June 2001, pp. 161-170.

Wahlen, J. (chair), J. Boatsman, R. Herz, G. Jonas (principal coauthor), K. Palepu, S. Ryan, K. Schipper (principal coauthor), C. Schrand, and D. Skinner. "Response to SEC Concept Release on International Accounting Standards." *Accounting Horizons*, December 2000, pp. 489-499.

Wahlen, J. (chair), J. Boatsman, R. Herz, G. Jonas, K. Palepu, S. Ryan, K. Schipper, C. Schrand, and D. Skinner (principal author). "Response to the FASB Preliminary Views: Reporting Financial Instruments and Certain Related Assets and Liabilities at Fair Value." *Accounting Horizons*, December 2000, pp. 501-508.

Wahlen, J. (chair), J. Boatsman, R. Herz, G. Jonas, K. Palepu, S. Ryan, K. Schipper, C. Schrand, and D. Skinner. "Response to the Special Report of the G4+1, 'Reporting Financial Performance: A Proposed Approach.'" *Accounting Horizons*, September 2000, pp. 365-379.

Wahlen, J. (chair), J. Boatsman, R. Herz, R. Jennings, G. Jonas (principal coauthor), K. Palepu, K. Petroni, S. Ryan, and K. Schipper (principal coauthor). "Response to IASC Discussion Paper: Shaping IASC for the Future." *Accounting Horizons* December 1999, pp. 443-452.

Wahlen, J. (chair), J. Boatsman, R. Herz, R. Jennings (principal coauthor), G. Jonas, K. Palepu (principal coauthor), K. Petroni (principal coauthor), S. Ryan, and K. Schipper. "Response to FASB Invitation to Comment on Methods of Accounting for Business Combinations: Recommendations of the G4+1 for Achieving Convergence." *Accounting Horizons*, September 1999, pp. 299-303.

HIGHLY CONFIDENTIAL

Wahlen, J. (chair), J. Boatsman, R. Herz, R. Jennings, G. Jonas, K. Palepu, K. Petroni, S. Ryan (principal author), and K. Schipper. "Liability and Equity" (principal author). *Accounting Horizons*, September 1999, pp. 305-307.

BOOK CHAPTERS, WHITE PAPERS, AND OTHER PUBLICATIONS:

Livnat, J., and S. Ryan. "Assessing Inventory Management and Capacity Requirements using Financial Reports." Chapter 5 in *Bridging the GAAP: Recent Advances in Finance and Accounting*. World Scientific, Series in Finance, 2012.

Ryan, S. "The Muddled State of Accounting Convergence." July 2011. www.stern.nyu.edu.

Regulating Wall Street, Edited by V. Acharya, T. Cooley, M. Richardson, and Ingo Walter, John Wiley & Sons, 2010.

Chapter 9, "Systemic Risk and the Regulation of Insurance Companies," V. Acharya, J. Biggs, H. Le, M. Richardson, and S. Ryan

Chapter 18, "Accounting and Financial Reform," J. Ronen and S. Ryan

Real Time Solutions for Financial Reform: An NYU Stern Working Group on Financial Reform, E-book Edited by V. Acharya, T. Cooley, M. Richardson, and Ingo Walter, December 2009.

Chapter 10, "Insurance Industry," V. Acharya, J. Biggs, M. Richardson, and S. Ryan

Chapter 17, "Securitization Reforms," S. Oncu, M. Richardson, J. Ronen, S. Ryan, M. Subrahmanyam, S. van Nieuwerburgh and L. White

Chapter 20, "Bank Regulators Should not Meddle in GAAP," J. Ronen and S. Ryan

Chapter 21, "Banks' Loan Loss Reserving," J. Ronen and S. Ryan

Chapter 22, "Market Illiquidity and Fair Value Measurement," J. Ronen and S. Ryan

Ryan, S., "Fair Value Accounting: Policy Issues Raised by the Credit Crunch," Chapter 9 in *Restoring Financial Stability: How to Repair a Failed System*, Edited by Viral Acharya and Matthew Richardson, John Wiley & Sons, 2009.

Ryan, S. "Fair Value Accounting: Understanding the Issues Raised by the Credit Crunch." Council of Institutional Investors White Paper, July 2008.

Ryan, S. "How Should Accounting Cope with Structured Finance?" www.smartpros.com, October, 2002.

Ryan, S. "Creative Accounting?" *STERNbusiness*, Summer 1999, pp. 32-35.

CURRENT COURSES TAUGHT:

Analysis of Financial Institutions and Financial Instruments (MBA)

Accounting for Financial Instruments (MS in Accounting)

HIGHLY CONFIDENTIAL

Empirical Research in Financial Accounting (Ph.D.)

EDITORIAL ACTIVITIES:

Review of Accounting Studies, Editor 2006-2011, Editorial Board 1997-2006 and 2011-Present

Journal of Accounting Research, Editorial Board, 2012-Present

Journal of Accounting, Auditing and Finance, Associate Editor 1994-Present, Co-editor of 1996 and 2002 conference issues, Chair of 2002 conference

Journal of Business, Finance and Accounting, Associate Editor 2001-Present

Accounting Horizons, Editorial Advisory and Review Board, 2004-2006

The Accounting Review, Editorial Advisory and Review Board, 1992-1998, 2000-2002

Journal of Financial Statement Analysis, Associate Editor, 1995-1998

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APPENDIX B**Materials Relied Upon****Bates-Stamped Documents**

DT 000009-DT 000011
 FHFA00770837-FHFA00770839
 FHFA01747883-FHFA01747896
 FHFA03886206-FHFA03886208
 FHFA04883581-FHFA04883585
 FHFA05448166-FHFA05448171
 FHFA05829215-FHFA05829236
 FHFA05874399-FHFA05874422
 FHFA08486834-FHFA08486847
 FHFA08487536-FHFA08487546
 FHFA08494363-FHFA08494397
 FHFA09093248-FHFA09093262
 FHFA09589593-FHFA09589607
 FHFA09652457
 FHFA11441988-FHFA11442001
 FHFA11940845-FHFA11940854
 FHFA13012684-FHFA13012704
 FHFA13012332-FHFA13012356
 FHFA13242053-FHFA13242071
 FHFA13242072-FHFA13242085
 FHFA13305122- FHFA13305143
 FHFA15895267
 FHFA15898375
 FHFA17512985
 FHFA19028552
 PWC-FHFA-FM-0000485-PWC-FHFA-FM-0000505
 PWC-FHFA-FM-0002210-PWC-FHFA-FM-0002212
 PWC-FHFA-FM-0002213-PWC-FHFA-FM-0002231

Case Documents

Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012)
 Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. September 2, 2011).
 Deposition of Donald Bisenius, *FHFA v. Nomura Holding America Inc., et al.*, December 6, 2013
 Deposition of Eric Rosenblatt, *FHFA v. Nomura Holding America Inc., et al.*, November 8, 2013
 Deposition of Jack Myers, *FHFA v. Nomura Holding America Inc., et al.*, March 12, 2013
 Deposition of Kirk Silva, *FHFA v. Nomura Holding America Inc., et al.*, March 1, 2013
 Deposition of Peter Niculescu, *FHFA v. Nomura Holding America Inc., et al.*, December 10, 2013
 Exhibit A to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013
 Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013
 Exhibit A to Plaintiff's Responses and Objections to Defendants' Second Set of Interrogatories, December 13, 2012
 Exhibit B to Plaintiff's Responses and Objections to Defendants' Second Set of Interrogatories, December 13, 2012

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Data

ABSNet

Publicly Available Documents

“FHFA Filings in PLS Cases, September 2, 2011,” available at: <http://www.fhfa.gov/Default.aspx?Page=110>, accessed January 22, 2014

“Greenspan: Economy in ‘once-in-a-century’ crisis,” CNNMoney.com, September 14, 2008, available at: <http://money.cnn.com/2008/09/14/news/economy/greenspan/>, accessed November 11, 2013

“US Business Cycle Expansions and Contractions,” National Bureau of Economic Research, available at: <http://www.nber.org/cycles.html>, accessed January 13, 2014

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Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, National Credit Union Administration, Office of the Comptroller of the Currency, *Interagency Supervisory Guidance on Allowance for Loan and Lease Losses Estimation Practices for Loans and Lines of Credit Secured by Junior Liens on 1-4 Family Residential Properties*, January 31, 2012

Deloitte, “Making History: A Look at a Move to IAS 37 from the Longstanding FAS 5 and its Effect on Buy-Sell Transactions,” 2009, available at: http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_fas_buy_sell_280509.pdf

EITF Abstracts, Appendix D, Topic No. D-80, *Application of FASB Statements No. 5 and No. 114 to a Loan Portfolio*, Discussed May 19-20, 1999

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Exhibit 31.1 to Fannie Mae, Form 10-K, Fiscal Year Ended December 31, 2011

Exhibit 31.2 to Fannie Mae, Form 10-K, Fiscal Year Ended December 31, 2011

Exhibit 31.1 to Freddie Mac, Form 10-K, Fiscal Year Ended December 31, 2011

Exhibit 31.2 to Freddie Mac, Form 10-K, Fiscal Year Ended December 31, 2011

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FASB Staff Position No. FAS 157-3, *Determining the Fair Value of a Financial Asset When the Market for That Asset Is Not Active*, October 10, 2008

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 Trustee Report for Nomura Home Equity Loan, Inc. Asset-Backed Certificates Series 2006-HE3, May 27, 2014
 Trustee Report for Nomura Home Equity Loan, Inc. Asset-Backed Certificates Series 2007-1, May 27, 2014
 Trustee Report for Nomura Home Equity Loan, Inc. Asset-Backed Certificates Series 2007-2, May 27, 2014
 Trustee Report for Nomura Home Equity Loan, Inc. Asset-Backed Certificates Series 2007-3, May 27, 2014
 Yuliya Demyanyk and Otto Van Hemert, "Understanding the Subprime Mortgage Crisis," *The Review of Financial Studies*, vol. 24, no. 6, 2011, pp. 1848-1880

APPENDIX C**EXAMPLE CALCULATIONS OF THE AMOUNT, TIMING, AND FINANCIAL STATEMENT CLASSIFICATION OF FAIR VALUE LOSSES FOR AFS SECURITIES HELD BY FREDDIE MAC AND FANNIE MAE**

1. In order to quantify the temporary, OTT non-credit, and OTT credit losses for each At-Issue Certificate, I first had to understand Freddie Mac's and Fannie Mae's accounting data and impairment calculations as presented in the GSEs' interrogatory responses. Although these responses contained security-level "Temporary Impairments" and "Other Than Temporary Impairments" amounts for both firms, these amounts were accompanied by minimal definitions, underlying data, and calculations.¹ The information provided by Fannie Mae was considerably less detailed than that provided by Freddie Mac. Supported by others under my direction, I examined the accounting data and impairment calculations in Freddie Mac's and Fannie Mae's work papers to establish how "Temporary Impairments" and "Other Than Temporary Impairments" as reported in the interrogatory responses reflect temporary impairments, OTT non-credit losses, and OTT credit losses as I have described them earlier in Section VI.A. As discussed in detail below, with fairly minor exceptions, I have been able to establish that "Temporary Impairments" correspond to temporary losses and OTT non-credit losses, which I refer to collectively as "reversible losses," and "Other Than Temporary Impairments" correspond to OTT credit losses. As discussed below, however, the GSEs' work papers are available for fewer periods and for fewer At-Issue Certificates than the interrogatory responses.

A. Security Impairments - Fannie Mae

2. Fannie Mae's impairment analyses (i.e., work papers) use several accounting metrics in calculations, and I interpret these metrics as follows:

¹ Security values were also reported in the interrogatory data without underlying data or calculations.

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- “FV” – Fair market value;
- “BV” – Book value;
- “UPB” – Unpaid principal balance;
- “Gain/Loss \$” – equals (“FV” – “BV”), a measure consistent with the entire decrease of fair value below book value for non-OTT-impaired securities and the non-credit loss component of OTT impairments according to the FSP.

I describe my analysis of these metrics and related calculations below. Using Certificate FFML 2006-FF18 A1 (CUSIP 32029AAA5) as an example, I describe how I determined the reversible losses and OTT credit losses from Fannie Mae’s interrogatory data as of December 31, 2010. I refer to this security as the “Fannie Mae security” in the discussion that follows.

3. I compared the reported Fannie Mae security values from the interrogatory responses and the work papers. The two sources consistently reported a fair value of \$196,384,661 as of December 31, 2010 (Q4, 2010).² Fannie Mae’s interrogatory response reported a Temporary Impairment of \$47,304,604 and an Other Than Temporary Impairment of \$120,986,221 as of December 31, 2010 for the Fannie Mae security.³

4. The Q4 2010 Fannie Mae work papers provided several accounting balances and metrics that I used to calculate reversible losses and OTT credit losses. In addition, security-level data in these work papers enabled me to calculate impairment measures for the certificates, conditional on their impairment status and FAS 115 classification.

5. From Fannie Mae’s work papers, I established that “Gain/Loss \$” (47,304,604) equals the difference between “FV” and “BV” (\$196,384,661 - \$243,689,265), which is consistent with the calculation for OTT non-credit losses under the FSP.⁴ This reconciliation

² Exhibit A to Plaintiff’s Second Set of Objections and Responses to Defendants’ Third Set of Interrogatories, March 27, 2013; “Q4 2010 Work Paper,” Fannie Mae, December 31, 2010, FHFA15895267.

³ Exhibit A to Plaintiff’s Second Set of Objections and Responses to Defendants’ Third Set of Interrogatories, March 27, 2013.

⁴ Assumes book value equals the present value of future expected cash flows discounted at the yield at time of purchase.

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allows me to conclude: A) the “Gain/Loss \$” from Fannie Mae’s work papers equals the Temporary Impairment from Fannie Mae’s interrogatory for the Fannie Mae security; and B) Fannie Mae’s Temporary Impairment measure is consistent with OTT non-credit losses.

6. Other accounting measures from Fannie Mae’s Q2 2011 work papers allowed me to calculate a measure consistent with OTT credit losses, although this specific impairment measure does not appear to be reported directly in the work papers.⁵ The difference between “BV” and “UPB” ($\$243,689,265 - \$364,675,486 = \$120,986,221$) for the Fannie Mae security is consistent with the calculation for OTT credit losses under the FSP.⁶ The result of this calculation is equal to Other Than Temporary Impairment in the interrogatory data for the Fannie Mae security as of December 31, 2010.⁷

B. Security Impairments - Freddie Mac

7. The process for calculating the reported impairments from Freddie Mac’s interrogatory data is essentially the same as described above for Fannie Mae. I analyzed several accounting metrics from Freddie Mac’s impairment analyses and interpret these metrics as follows:

- “FMV” – Fair market value;
- “New Book Value” – Book value;
- “UPB” – Unpaid principal balance;
- “New Unrlzd Gain/Loss” – equals (“FMV” – “New Book Value”), a measure consistent with noncredit OTT impairment according to the FSP.

⁵ Additional accounting variables labeled “Accum Impairment”, “Accum Accretion”, and “Pre Accum Imp Gain Loss” appear as though they may be used in calculating OTT credit losses but combinations of these variables did not reconcile to Other Than Temporary Impairments from the interrogatory.

⁶ Assumes book value equals the present value of future expected cash flows discounted at the yield at time of purchase and that unpaid principal balance equals amortized cost.

⁷ I note that as of the period ended December 31, 2012 for the Fannie Mae Security, the interrogatory data reports the difference between the “Value of Certificates” and “Unpaid Principal Balance” ($\$155,927,637 - \$307,232,395 = (\$151,304,758)$) as greater than the sum of “Temporary Impairment” and “Other Than Temporary Impairment” ($(\$9,995,286) + (\$148,743,454) = (\$158,738,740)$).

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8. Below I describe the reconciliation of certain impairments amounts between Freddie Mac's work papers and interrogatory responses using a sample certificate (ARSI 2006-M1 A1 with CUSIP 04012MAM1). I refer to this security as the "Freddie Mac security" in the discussion that follows.

9. I established that the fair value of the Freddie Mac security as of December 31, 2010 is \$231,451,427 in both Freddie Mac's interrogatory data and in its Q4 2010 work papers.⁸ Next, I show how I used certain accounting balances in Freddie Mac's work papers to establish the composition of reported impairments in Freddie Mac's interrogatory data.

10. From the Freddie Mac work papers, I identified an accounting measure labeled "New Unrlzd Gain/Loss" that equals ("FMV" – "New Book Value").⁹ For the Freddie Mac security, "New Unrlzd Gain/Loss" equals \$149,045,453, the difference between "FMV" of \$231,451,427 and "New Book Value" of \$380,496,880.¹⁰ From Freddie Mac's interrogatory data, the Temporary Impairment for this security as of December 31, 2010 equals \$149,045,453.¹¹

11. As is the case with Fannie Mae's work papers, additional accounting measures and calculations allow me to calculate a measure consistent with OTT credit losses from Freddie Mac's work paper data. For the Freddie Mac security, I calculated ("New Book Value" – "UPB"), which equals \$97,636,433 (\$380,496,880 - \$478,133,313) and is generally consistent

⁸ Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013; "Q4 2010 Work Paper," Freddie Mac, December 31, 2010, FHFA09652457.

⁹ Assumes book value equals the present value of future expected cash flows discounted at the yield at time of purchase. I do observe some differences between the accounting variables "New Book Value" and "PV of Expected Cash Flows" in the work papers, but the source of these differences is another accounting variable labeled "New Ending Accretable UnAm", which appears to be the portion of OTT credit losses that has been economically reversed due to improved cash flow expectations since the most recent OTT impairment write-down.

¹⁰ "Q4 2010 Work Paper," Freddie Mac, December 31 2010, FHFA09652457.

¹¹ Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.

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with the calculation for OTT credit losses under the FSP.¹² Freddie Mac's interrogatory reports an Other Than Temporary Impairment of \$97,636,433 as of December 31, 2010.¹³

¹² The difference between "New Book Value" and "UPB" also equals the sum of three accounting measures labeled "Rem. Credit Loss Non-Accretable", "Accretable Imp Recovery UnAm", and "Total Impairment Expense."

¹³ Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.

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Exhibit 1
Summary of Nomura Certificates Purchased by Freddie Mac and Fannie Mae

Freddie Mac Certificates	Number of Certificates
Available for Sale ¹	6 [A]
Fannie Mae Certificates	Number of Certificates
Available for Sale ²	1 [B]
Total Number of Available for Sale Certificates, included in Exhibit 2	7 ([A])+([B])

Notes:

[1] The classification of "AFS" for certificates sold by Nomura to Freddie Mac is based on the March 12, 2013 Deposition of Jack Myers in which he testifies that all PLS purchased by Freddie Mac from 2005 through 2007 fell under the available for sale categorization, pp. 27:14-29:22. For all 6 certificates purchased by Freddie Mac, the Interrogatory Data reports non-zero Temporary or OTT impairment values as of August 31, 2011 (the closest date to the lawsuit filing) and December 31, 2012.

[2] The classification of "AFS" for the certificate sold by Nomura to Fannie Mae is based on labeling in Fannie Mae's Q2 2011 and Q4 2012 Work Papers. For the certificate purchased by Fannie Mae, the Interrogatory Data reports non-zero Temporary or OTT impairment values as of August 31, 2011 (the closest date to the lawsuit filing).

Sources:

[a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).

[b] Exhibit A to Plaintiff's Responses and Objections to Defendants' Second Set of Interrogatories, December 13, 2012.

[c] Exhibit B to Plaintiff's Responses and Objections to Defendants' Second Set of Interrogatories, December 13, 2012.

[d] ABSNet.

[e] Exhibit A to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.

[f] Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.

[g] "Q2 2011 Work Paper," Fannie Mae, June 30, 2011, FHFA15898375.

[h] "Q4 2012 Work Paper," Fannie Mae, December 31, 2012, FHFA19028552.

[i] March 12, 2013, Deposition of Jack Myers, at 27:14-29:22.

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Exhibit 2A
Impairment Analysis for Nomura Certificates Purchased by Freddie Mac and Fannie Mae
Certificates Classified as "AFS"
2008 - 2012^{2,3}
(amounts in \$ millions)

Panel A: OTT Impaired CUSIPs ¹									
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments [g]=(d)+(e)+(f)	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵ [h]=(d)+(e)/[b]	% of Total Impairment Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵ [j]=(d)+(e)/[g]
2008 ²	3	\$314	\$199	\$0	\$114	NA	\$114	36%	100%
2009	5	\$691	\$335	NA	\$210	\$147	\$357	30%	59%
2010	6	\$771	\$402	NA	\$194	\$176	\$369	25%	52%
2011 ³	6	\$734	\$342	NA	\$211	\$181	\$392	29%	54%
2012	6	\$671	\$314	NA	\$163	\$199	\$361	24%	45%

Panel B: Non-OTT Impaired CUSIPs ¹					
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ^{5,7}	% of UPB Ascribed to Temporary Losses ⁵ [h]=[d]/[b]
2008	4	\$770	\$534	\$236	31%
2009	2	\$214	\$132	\$83	39%
2010	1	\$41	\$32	\$9	21%
2011 ³	1	\$37	\$28	\$9	24%
2012	1	\$32	\$26	\$6	19%

Panel C: All CUSIPs									
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments [g]=(d)+(e)+(f)	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵ [h]=(d)+(e)/[b]	% of Total Impairment Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵ [j]=(d)+(e)/[g]
2008 ²	7	\$1,083	\$733	\$236	\$114	NA	\$350	32%	100%
2009	7	\$906	\$466	\$83	\$210	\$147	\$439	32%	67%
2010	7	\$811	\$434	\$9	\$194	\$176	\$378	25%	54%
2011 ³	7	\$771	\$370	\$9	\$211	\$181	\$401	29%	55%
2012	7	\$704	\$340	\$6	\$163	\$199	\$367	24%	46%

Notes:

- [1] Certificates with OTTI losses greater than \$1 were deemed OTT Impaired, and certificates with OTTI losses less than or equal to \$1 were not deemed OTT Impaired.
- [2] Since FSP FAS 115-2 was not in effect until 2009, no breakdown of OTTI into Credit and Non-Credit portions was required in 2008. Prior to FSP FAS 115-2, for Certificates from Panel A, "Temporary Impairment" and "Other than Temporary Impairment" from the Interrogatory Data were determined to be Temporary losses and OTT Non-Credit losses, respectively.
- [3] The calculations for 2011 are as of August 31, 2011 and reflect financial data available closest to the lawsuit filing date.
- [4] "Value of Certificates" from the Interrogatory Data was determined to be Fair Value.
- [5] "Temporary Impairment" from the Interrogatory Data was determined to be OTT Non-Credit losses for Certificates from Panel A and Temporary losses for certificates from Panel B based on data and calculations in the Work Papers.
- [6] "Other than Temporary Impairment" from the Interrogatory Data was determined to be OTT Credit losses based on data and calculations in the Work Papers.
- [7] Because certificates in Panel B were deemed not impaired, Temporary losses are not required to be categorized into Credit and Non-Credit components.

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
- [b] ABSNet.
- [c] Exhibit A to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
- [d] Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
- [e] "Q4 2010 Work Paper," Freddie Mac, December 31, 2010, FHFA09652457.
- [f] "Q2 2011 Work Paper," Fannie Mae, June 30, 2011, FHFA15898375.
- [g] "Q4 2012 Work Paper," Fannie Mae, December 31, 2012, FHFA19028552.
- [h] March 12, 2013, Deposition of Jack Myers, at 27:14-29:22.

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Exhibit 2B
Impairment Analysis for Nomura Certificates Purchased by Freddie Mac
Certificates Classified as "AFS"
2008 - 2012^{2,3}
(amounts in \$ millions)

Panel A: OTT Impaired CUSIPs ¹										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵	% of UPB Ascribed to OTT Credit Losses ⁶	% of Total Impairment Ascribed to OTT Credit Losses ⁶
	[a]	[b]	[c]	[d]	[e]	[f]	[g]=[d]+[e]+[f]	[h]=[d]+[e]/[b]	[i]=[f]/[b]	[k]=[f]/[g]
2008 ²	2	\$273	\$176	\$0	\$97	NA	\$97	36%	NA	NA
2009	4	\$656	\$312	NA	\$208	\$136	\$344	32%	21%	39%
2010	5	\$740	\$382	NA	\$194	\$165	\$358	26%	22%	46%
2011 ³	5	\$705	\$325	NA	\$210	\$170	\$381	30%	24%	45%
2012	5	\$646	\$297	NA	\$163	\$186	\$349	25%	29%	53%

Panel B: Non-OTT Impaired CUSIPs ¹										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ^{5,7}	% of UPB Ascribed to Temporary Losses ⁵					
	[a]	[b]	[c]	[d]	[h]=[d]/[b]					
2008	4	\$770	\$534	\$236	31%					
2009	2	\$214	\$132	\$83	39%					
2010	1	\$41	\$32	\$9	21%					
2011 ³	1	\$37	\$28	\$9	24%					
2012	1	\$32	\$26	\$6	19%					

Panel C: All CUSIPs										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵	% of UPB Ascribed to OTT Credit Losses ⁶	% of Total Impairment Ascribed to OTT Credit Losses ⁶
	[a]	[b]	[c]	[d]	[e]	[f]	[g]=[d]+[e]+[f]	[h]=[d]+[e]/[b]	[i]=[f]/[b]	[k]=[f]/[g]
2008 ²	6	\$1,043	\$710	\$236	\$97	NA	\$333	32%	NA	NA
2009	6	\$871	\$444	\$83	\$208	\$136	\$427	33%	16%	32%
2010	6	\$781	\$414	\$9	\$194	\$165	\$367	26%	21%	45%
2011 ³	6	\$742	\$353	\$9	\$210	\$170	\$389	30%	23%	44%
2012	6	\$678	\$323	\$6	\$163	\$186	\$355	25%	27%	52%

Notes:

- [1] Certificates with OTTI losses greater than \$1 were deemed OTT Impaired, and certificates with OTTI losses less than or equal to \$1 were not deemed OTT Impaired.
- [2] Since FSP FAS 115-2 was not in effect until 2009, no breakdown of OTTI into Credit and Non-Credit portions was required in 2008. Prior to FSP FAS 115-2, for certificates from Panel A, "Temporary Impairment" and "Other than Temporary Impairment" from the Interrogatory Data were determined to be Temporary losses and OTT Non-Credit losses, respectively.
- [3] The calculations for 2011 are as of August 31, 2011 and reflect financial data available closest to the lawsuit filing date.
- [4] "Value of Certificates" from the Interrogatory Data was determined to be Fair Value.
- [5] "Temporary Impairment" from the Interrogatory Data was determined to be OTT Non-Credit losses for certificates from Panel A and Temporary losses for certificates from Panel B based on data and calculations in the Work Papers.
- [6] "Other than Temporary Impairment" from the Interrogatory Data was determined to be OTT Credit losses based on data and calculations in the Work Papers.
- [7] Because certificates in Panel B were deemed not impaired, Temporary losses are not required to be categorized into Credit and Non-Credit components.

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
- [b] ABSNet.
- [c] Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
- [d] "Q4 2010 Work Paper," Freddie Mac, December 31, 2010, FHFA09652457.

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Exhibit 2C
Impairment Analysis for the Nomura Certificate Purchased by Fannie Mae
Certificate Classified as "AFS"
2008 - 2012^{2,3}
(amounts in \$ millions)

Panel A: OTT Impaired CUSIPs ¹										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments [g]=d+[e]+[f]	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵	% of UPB Ascribed to OTT Credit Losses ⁶	% of Total Impairment Ascribed to OTT Credit Losses ⁶
2008 ²	1	\$40	\$23	\$0	\$17	NA	\$17	42%	NA	NA
2009	1	\$35	\$22	NA	\$1	\$11	\$12	3%	33%	91%
2010	1	\$31	\$21	NA	\$0	\$11	\$11	0%	36%	100%
2011 ³	1	\$29	\$17	NA	\$1	\$11	\$12	4%	37%	90%
2012	1	\$26	\$17	NA	\$0	\$12	\$12	0%	48%	100%

Panel B: Non-OTT Impaired CUSIPs ¹										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ^{5,7}	% of UPB Ascribed to Temporary Losses ⁵					
2008	0	NA	NA	[d]	[h]=[d]/[b]					
2009	0	NA	NA	NA	NA					
2010	0	NA	NA	NA	NA					
2011 ³	0	NA	NA	NA	NA					
2012	0	NA	NA	NA	NA					

Panel C: All CUSIPs										
Year	Number of CUSIPs	Unpaid Principal Balance	Fair Value ⁴	Temporary Losses ⁵	OTT Non-Credit Losses ⁵	OTT Credit Losses ⁶	Total Impairments [g]=d+[e]+[f]	% of UPB Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵	% of UPB Ascribed to OTT Credit Losses ⁶	% of Total Impairment Ascribed to OTT Credit Losses ⁶
2008 ²	1	\$40	\$23	\$0	\$17	NA	\$17	42%	NA	NA
2009	1	\$35	\$22	NA	\$1	\$11	\$12	3%	33%	91%
2010	1	\$31	\$21	NA	\$0	\$11	\$11	0%	36%	100%
2011 ³	1	\$29	\$17	NA	\$1	\$11	\$12	4%	37%	90%
2012	1	\$26	\$17	NA	\$0	\$12	\$12	0%	48%	100%

Notes:

[1] Certificates with OTTI losses greater than \$1 were deemed OTT Impaired, and certificates with OTTI losses less than or equal to \$1 were not deemed OTT Impaired.
[2] Since FSP FAS 115-2 was not in effect until 2009, no breakdown of OTTI into Credit and Non-Credit portions was required in 2008. Prior to FSP FAS 115-2, for certificates from Panel A, "Temporary Impairment" and "Other than Temporary Impairment" from the Interrogatory Data were determined to be Temporary losses and OTT Non-Credit losses, respectively.

[3] The calculations for 2011 are as of August 31, 2011 and reflect financial data available closest to the lawsuit filing date.

[4] "Value of Certificates" from the Interrogatory Data was determined to be Fair Value.

[5] "Temporary Impairment" from the Interrogatory Data was determined to be OTT Non-Credit losses for Certificates from Panel A and Temporary losses for certificates from Panel B based on data and calculations in the Work Papers.

[6] "Other than Temporary Impairment" from the Interrogatory Data was determined to be OTT Credit losses based on data and calculations in the Work Papers.

[7] Because certificates in Panel B were deemed not impaired, Temporary losses are not required to be categorized into Credit and Non-Credit components.

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
[b] ABSNet.
[c] Exhibit A to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
[d] "Q2 2011 Work Paper," Fannie Mae, June 30, 2011, FHFA15898375.
[e] "Q4 2012 Work Paper," Fannie Mae, December 31, 2012, FHFA19028552.

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Exhibit 3A
Impairment Analysis for Nomura Certificates Purchased by Freddie Mac
Certificates Classified as "AFS"
August 31, 2011
(amounts in \$ millions)

Panel A: OTT Impaired CUSIPs¹

CUSIPs	Unpaid Principal Balance	Fair Value ²	OTT Non-Credit Losses ^{3,5}		Total Impairments	% of UPB Ascribed to OTT Non-Credit Losses ^{3,5}		OTT Credit Losses ⁴	% of UPB Ascribed to OTT Credit Losses ⁴		% of Total Impairment Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵		% of Total Impairment Ascribed to OTT Credit Losses ⁶
			[c]	[d]		[f]=[d]+[e]	[g]=[d]/[b]		[h]=[e]/[b]	[i]=[d]/[f]	[j]=[e]/[f]		
[a]	[b]	[c]	[d]	[e]	[f]=[d]+[e]	[g]=[d]/[b]	[h]=[e]/[b]	[i]=[d]/[f]	[j]=[e]/[f]				
55537FAA9	\$202	\$84	\$52	\$65	\$117	26%	32%	44%	56%				
55536QAA6	\$150	\$80	\$64	\$6	\$71	43%	4%	91%	9%				
55537KAA8	\$43	\$18	\$5	\$20	\$25	11%	47%	19%	81%				
55537MAA4	\$170	\$94	\$51	\$25	\$76	30%	15%	67%	33%				
55537NAA2	\$141	\$49	\$38	\$53	\$92	27%	38%	42%	58%				

Panel B: Non-OTT Impaired CUSIP¹

CUSIP	Unpaid Principal Balance	Fair Value ²	Temporary Losses ^{3,5}		% of UPB Ascribed to Temporary Losses ³	
			[c]	[d]	[g]=[d]/[b]	[h]=[d]/[b]
65536HBT4	\$37	\$28	\$9		24%	
All CUSIPs	\$742	\$353	\$219	\$170	30%	23%
					56%	44%

Notes:

- [1] Certificates with OTTI losses greater than \$1 were deemed OTT Impaired, and certificates with OTTI losses less than or equal to \$1 were not deemed OTT Impaired.
[2] "Value of Certificates" from the Interrogatory Data was determined to be Fair Value.
[3] "Temporary Impairment" from the Interrogatory Data was determined to be OTT Non-Credit losses for certificates from Panel A and Temporary losses for certificates from Panel B based on data and calculations in the Work Papers.
[4] "Other than Temporary Impairment" from the Interrogatory Data was determined to be OTT Credit losses based on data and calculations in the Work Papers.
[5] Because certificates in Panel B were deemed not impaired, Temporary losses are not required to be categorized into Credit and Non-Credit components.
[6] Only the certificates identified in the Complaint are included in the table.

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
[b] ABSNet.
[c] Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
[d] "Q4 2010 Work Paper," Freddie Mac, December 31, 2010, FHFA09652457.
[e] March 12, 2013, Deposition of Jack Myers, at 27:14-29:22.

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Exhibit 3B
Impairment Analysis for Nomura Certificates Purchased by Freddie Mac
Certificates Classified as "AFS"
December 31, 2012
(amounts in \$ millions)

Panel A: OTT Impaired CUSIPs¹

CUSIPs	Unpaid Principal Balance	Fair Value ²	OTT Non-Credit Losses ^{3,5}	OTT Credit Losses ⁴	Total Impairments [f]=[d]+[e]	% of UPB Ascribed to OTT Non-Credit Losses ³	% of UPB Ascribed to OTT Credit Losses ⁴	% of Total Impairment Ascribed to Temporary Losses and OTT Non-Credit Losses ⁵	% of Total Impairment Ascribed to OTT Credit Losses ⁶
[a]	[b]	[c]	[d]	[e]	[f]=[d]+[e]	[g]=[d]/[b]	[h]=[e]/[b]	[i]=[d]/[f]	[j]=[e]/[f]
65537FAA9	\$196	\$77	\$46	\$73	\$119	23%	37%	39%	61%
65536QAA6	\$133	\$78	\$42	\$13	\$55	32%	10%	76%	24%
65537KAA8	\$34	\$15	\$2	\$17	\$18	5%	49%	10%	90%
65537MAA4	\$150	\$77	\$46	\$28	\$74	30%	19%	62%	38%
65537NAA2	\$133	\$50	\$27	\$56	\$83	20%	42%	33%	67%

Panel B: Non-OTT Impaired CUSIP¹

CUSIP	Unpaid Principal Balance	Fair Value ²	Temporary Losses ^{3,5}	% of UPB Ascribed to Temporary Losses ³
[a]	[b]	[c]	[d]	[g]=[d]/[b]
65536HBT4	\$32	\$26	\$6	19%
All CUSIPs	\$678	\$323	\$169	25%
				27%
				48%
				52%

Notes:

- [1] Certificates with OTTI losses greater than \$1 were deemed OTT Impaired, and certificates with OTTI losses less than or equal to \$1 were not deemed OTT Impaired.
[2] "Value of Certificates" from the Interrogatory Data was determined to be Fair Value.
[3] "Temporary Impairment" from the Interrogatory Data was determined to be OTT Non-Credit losses for certificates from Panel A and Temporary losses for certificates from Panel B based on data and calculations in the Work Papers.
[4] "Other than Temporary Impairment" from the Interrogatory Data was determined to be OTT Credit losses based on data and calculations in the Work Papers.
[5] Because certificates in Panel B were deemed not impaired, Temporary losses are not required to be categorized into Credit and Non-Credit components.
[6] Only the certificates identified in the Complaint are included in the table.

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
[b] ABSNet.
[c] Exhibit B to Plaintiff's Second Set of Objections and Responses to Defendants' Third Set of Interrogatories, March 27, 2013.
[d] "Q4 2010 Work Paper," Freddie Mac, December 31, 2010, FHFA09652457.
[e] March 12, 2013, Deposition of Jack Myers, at 27:14-29:22.

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Exhibit 4A
Comparison of Prospectus Supplement Date and Trade Date for Nomura Certificates
Purchased by Freddie Mac

CUSIP ^[a]	Certificate Name ^[a]	Prospectus Supplement Date ^[b]	Trade Date ^[c]	Settlement Date ^[c]	Prospectus Supplement Date Later than Trade Date?
1 65536HBT4	NHELI 2006-FM1	1/27/2006	12/19/2005	1/31/2006	Yes
2 65537FAA9	NHELI 2006-FM2	10/30/2006	10/18/2006	10/31/2006	Yes
3 65536QAA6	NHELI 2006-HE3	8/29/2006	8/15/2006	8/31/2006	Yes
4 65537KAA8	NHELI 2007-1	1/29/2007	1/23/2007	1/31/2007	Yes
5 65537MAA4	NHELI 2007-2	1/30/2007	12/27/2006	1/31/2007	Yes
6 65537NAA2	NHELI 2007-3	4/27/2007	4/26/2007	4/30/2007	Yes

Sources:

[a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).

[b] ABSNet.

[c] Exhibit A to Plaintiff's Responses and Objections to Defendants' Second Set of Interrogatories, December 13, 2012.

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Exhibit 4B
Comparison of Prospectus Supplement Date and Trade Date for the Nomura Certificate
Purchased by Fannie Mae

CUSIP ^[a]	Certificate Name ^[a]	Prospectus Supplement Date ^[b]	Trade Date ^[c]	Settlement Date ^[c]	Prospectus Supplement Date Later than Trade Date?
1 65535VRJ9	NAA 2005-AR6	11/29/2005	11/16/2005	11/30/2005	Yes

Sources:

- [a] Amended Complaint, *Federal Housing Finance Agency v. Nomura Holding America Inc., et al.*, No. 11 Civ. 6201 (DLC) (S.D.N.Y. June 28, 2012).
- [b] ABSNet.
- [c] Exhibit B to Plaintiff’s Responses and Objections to Defendants’ Second Set of Interrogatories, December 13, 2012.